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THE PLAGUE—THIRTEENTH CASE.

SAN FRANCISCO, July 16, 1900.

To the Honorable, the Board of Health,
City and County of San Francisco—

GENTLEMEN: I beg leave to submit the following report on the thirteenth verified case of Bubonic Plague:

Name.—Lee Wing Tong, male, aged 40, laborer. Address 767 Clay Street.

History.—He was sent to the City and County Hospital on July 4th by Dr. Pillsbury with a note saying he was probably suffering from typhoid fever. Family history negative. Mother alive and well. Denies all venereal history.

Present illness, July 4th (Hospital record).—A Chinaman, who accompanied the patient to the hospital stated that the patient had been perfectly well up to four days before. Then he began to feel tired and depressed. He had fever and drank large quantities of water. He did not go to bed at once but kept on working. Two days before entrance to the hospital he had to give up and go to bed. Since then he has been in a semiconscious condition. When brought to the hospital the patient was delirious and unable to walk; was also excessively dyspneic. Respirations 36 per minute; pulse, 120; temperature, 104. Abdomen markedly distended and tympanitic. Walls tense, rigid and tender on pressure.

Examination July 5th.—Patient a well developed and well nourished individual. Was delirious, lips dry, tongue dry and covered with a white coating. No dullness over lungs. Area of cardiac dullness from the upper border of the third rib left sternal border to the fifth interspace within the mammary line. Abdomen distended and tender especially in the ileo-cecal region. Spleen extends nearly to the edge of the ribs. Passages from the bowels blood stained and tinged with brown . In left inguinal region enlarged glands marked forming a good sized bubo. The glands of the femoral region of the same side also much enlarged forming a continuous swelling with those of the upper set. Skin over them infiltrated and reddened. No urethral discharge. Glands hard and confluent and show no tendency to softening. Extremely tender on pressure. The glandular swelling was aspirated at 11 a. m. July 5th, and the fluid obtained injected into a guinea pig. No diazo reaction with the urine at 12 midnight of the 5th. Patient died at about 6:10 a. m. July 6th.

Autopsy.—July 6, 1900, 11:15 a. m. Work done by Dr. Brady, assistant pathologist at Cooper Medical College, and notes taken by Dr. O'Connor. Lee Wing Tong, aged 40 years, occupation laborer, time of death 6:10 a. m. July 6, 1900. Time of postmortem July 6, 1900, 11:15 a. m. External examination, medium sized fairly well nourished middle aged Chinese, rigor mortis fairly well marked, livores mortis over upper back, superficial loss of central corneal epithelium of right eye, visible mucous membranes normal, no edema, no cyanosis, left inguino-femoral region occupied by a partly livid swelling extending over an area 12x9 cm. and elevated about 3 cm. No scars on penis, genitalia small, moderate edema of panniculus at site of swelling.

Lymph nodes.—Edema more marked on deeper dissection. Upward near the left inguinal ligaments is a long lateral swelling and the edema is more marked there. Femoral and inguinal glands enlarged varying from crabapple (largest one) to split pea in size and two dozen or more in number. Under the capsule is a concentric yellow zone 1 to 2 mm. wide. The cortex of the gland is full of medium sized hemorrhages, the gland substance is firm, the color is mottled red and purplish white.

Abdomen.—Not distended. Subcutaneum and muscles normal. Panniculus 5 cm. thick and of deep yellow color. Peritoneum smooth, moist, glistening and transparent. Omentum long, rich in fat extends into true pelvis adherent laterally to abdominal wall and sigmoid flexure on left side.

Skin.—On chest are some small recent excoriations of skin in region of xiphoid.

Right inguinal glands.—Chain slightly enlarged and softened, cut surface brownish red, no bordering edema.

Abdominal viscera.—Position normal, no fluid in recto-vesical fossa. Appendix normal, liver hidden behind free margin of ribs.

Thorax.—Well arched, deep, rather narrow, symetric, diaphagm, third interspace right side; fourth interspace left.

Spleen.—Omentum also adherent in neighborhood of spleen, spleen somewhat enlarged, 13½x10x6 cm. capsule not wrinkled, smooth, slaty bluish purple color. On cut surface pulp is deep purple and slightly elevated above cut surface. Trabeculæ numerous but apparently slightly diminished in number, medullary spaces mottled yellowish red and brownish yellow, follicles enlarged and yellowish white. Much dark blood exudes from cut surface.

Thorax.—Costal cartilages not calcified, much dark fluid blood in veins of neck, sternum normal, lungs retract well into thorax, both pleural cavities empty, blood from cut veins of neck clots quickly.

Heart.—About 20 cc. brownish red turbid fluid in pericardium both layers of pericardium smooth, moist, glistening and transparent. Heart slightly below the normal in size, normal amount of subepicardial fat, right auricle distended with dark fluid blood, no clots, left ventricle the same, coronary veins markedly injected, tri-cuspid orifice admits three fingers, moderate size postmortem clot in pulmonary artery, mitral orifice permits passage of two fingers. Heart muscle fairly firm, dark brown color, strongly hyperemic, valves on left side contain a few yellowish white thickenings of the intima, especially the mitral, valves on right side of heart normal, coronary arteries normal.

Aorta (Arch).—Little below the normal in size, normal elasticity, otherwise normal.

Cut spleen.—Pulp rises above cut surface, deep reddish brown, malpighian bodies yellowish white, swollen, outlines indistinct; trabeculæ apparently diminished in number but not thickened.

Left lung.—Slight adhesions to apex, small healed fibroid focus in apex, deeply anthracotic and size of wheat grain; no signs of tuberculosis, lung of about normal size, pleura normal. Cut surface of lung exudes much dark fluid blood; fairly free from air, free margains, slightly emphysematous. Bronchial mucous membranes somewhat cyanotic and slightly swollen, pulmonary vessels normal.

Right lung.—Practically in same condition as left, veins engorged, middle lobe a little anemic.

Peri-Bronchial lymph glands.—Anthracotic, moderately enlarged, a little softened.

Left adrenal.—Normal.

Left kidney.—Capsule non adherent, cut surface cyanotic, otherwise normal.

Right kidney, right adrenal.—Same as left, both renal pelves normal with exception of a few minute hemorrhages,

Both ureters.—Normal.

Bile duct.—Open, dark bile escaping.

Gall ducts.—Normal.

Gall bladder, and contents normal.

Stomach.—Not distended; contains about 100 cc. greenish colored partly digested contents with slightly acid odor. Gastric mucous membrane in fundus somewhat atrophic, capillary injection of submucosa. Small hemorrhages and superficial defects in mucous membrane near pylorus, all the coats of the stomach are thin, a thin coat of clear tenacious mucus covers mucous membrane.

Liver.—Small, 26x15x7½ cm. Small irregular yellowish white areas beneath capsule on convexity and lower surface of both lobes, fatty infiltration areas, cut surface smooth, centers indistinct light brownish red color and slightly retracted, periphery of lobules irregular grayish yellow in color. Much dark fluid blood escaping from cut hepatic veins.

Pancreas.—Normal size and shape, cut surface cyanotic, acini firm, otherwise normal, pancreatic duct normal.

Skull cap.—Rather thin, averages 3 mm. in thickness, a little asymmetric; measures 16x13 cm. No other changes.

Dura.—Non-adherent, not thickened, blood vessels injected.

Base of skull.—Normal, much dark fluid blood in lateral and sigmoid sinuses.

Brain.—Normal amount of cerebrospinal fluid clear, longitudinal sinus filled with dark recently-clotted blood, the convolutions on convexity normal; basilar vessels normal; about ¼ teaspoonful slightly blood tinged fluid in either lateral ventricle, mostly located in posterior horn; congestion and slight edema of cerebral brain substance. Cerebellum, pons, medulla, basilar ganglia, normal.

Pelvis.—Much dark fluid blood in veins.

Bladder.—Contracted, empty, mucous membrane of neck cyanotic, otherwise normal.

Prostate.—Small, otherwise normal.

Rectum.—Mucous membrane anemic, atrophic with few folds, thin coat of tenacious mucus.

Seminal vesicles.—Normal, contain a little somewhat gelatinous clear material.

Mesenteric lymph glands.—No enlargement or congestion. Retroperitoneal lymph glands normal.

Femoral veins.—Normal on both sides.

Iliac lymph gland.—One just above Poupart's ligament found in precisely same condition as those removed from left inguinal region the size of a large hazel nut.

Testicles.—Small slightly edematous.

Left axillary lymph glands.—Moderately enlarged, soft, deeply congested.

Right axillary lymph gland.—In about same condition as left, but slightly larger.

Tonsils.—About ½ of tonsillar tissues replaced by fibrous tissue, the organ a little swollen the intact essential glandular substance hyperemic.

Oesophagus.—Normal.

Pharynx, and entrance to larynx cyanotic.

Larynx and trachea.—Contain a little foamy mucous, slight cyanosis of mucous membrane.

Lingual follicles.—Enlarged, hyperemic, superficial defects in some.

Thyroids.—Hyperemic.

Aorta.—(Thoracic and abdominal) small ½ normal caliber, wall thin, normally elastic, intima normal.

Intestines.—Large and small. Mucous membrane somewhat thinner than normal, solitary follicles normal. Peyers patches few, several of them atrophic with punctate dark brown pigmentation, thin coat of tenacious mucus over inner layer of entire intestines.

Appendix.—No noticeable changes in mucous membranes.

Aspiration wound, small, hypodermic puncture in skin over center of swelling in left femoral region has been hermetically sealed with medicated cotton and adhesive plaster; there are no changes in edges of puncture.

Anatomical diagnosis.—Acute lymph adenitis inguinal and femoral (buboes); cyanosis of lungs; hyperemia of heart; enlargement both axillary and right inguinal glands; infectious splenic swelling; chronic gastro-enteritis mucosa; atrophy external genitalia; atrophy and edema of testicles; hyperemia and edema of brain; congenital atrophy of aorta and larger blood vessels; edema and hyperemia of subcutaneum (left inguinal region); acute lymphadenitis iliacis sinistra (bubo); slight enlargement of tonsils and lingual follicles; cyanosis of kidneys; cyanosis and fatty infiltration and moderate brown atrophy of liver.

Among those present at the autopsy were Drs. Kinyoun, Krone, Ryfkogel, Fagan, Hirshfelder, Brady, Kellogg, and later Power and Hodghead. Material was removed for bacteriological examination by Drs. Ryfkogel, Kinyoun, Brady and myself.

The same afternoon at about three o'clock in the presence of Drs. Ryfkogel and Fagan, I inoculated two guinea pigs with material from the Chinaman. The first pig died in 27 hours and the second died in three days.

Autopsy guinea pig No. 1.—Some coagulation necrosis at site of inoculation and slight edema of whole abdominal subcutaneum and separation of integument from muscular layer. About one cc. of blood tinged fluid in pericardium. Heart's blood fluid. Liver soft and showing several yellow spots on anterior surface. Spleen enlarged not quite double its normal size, but no yellow spots. Thyroid gland hyperemic and about the size of a bean. Cover slip preparations from the inoculation wound and from thyroid gland showed numerous short bacilli with rounded ends, bipolar staining and decolorizing by Gram's method.

Autopsy Guinea pig No. 2.—Inoculated with spleen of Lee Wing Tong, July 6, 1900, at 3 p. m. Died July 9, after 6 p. m.

Subcutaneous edema of the whole abdominal wall and a large area of coagulation encrosis at the site of inoculation. Wide spread subcutaneous hemorrhages, also marked hemorrhages in both axillae and on the anterior surface of the sternum. Lymph nodes of the right axilla enlarged, necrotic and contained many hemorrhages. Heart muscle intensely hyperemic, the right side a dark bluish black. Both ventricles filled with clotted blood. Left lung hyperemic. Spleen about four times its normal size, very dark and friable. Peritoneum covering stomach and small intestines hyperemic.

Autopsy.—Guinea pig inoculated July 8th, 1 p. m. with spleen of guinea pig, which had been inoculated with aspirated fluid from Lee Wing Tong the day before he died. Large area of coagulation necrosis at site of inoculation surrounded by a large area of edema. Intense injection of the vessels of the subcutaneum and hemorrhages into both groins. Heart same as guinea pigs 1 and 2. Spleen about three times normal size, dark brown with lighter spots.

Autopsy.—Dr. Hirshfelder's guinea

pig which had been inoculated at 11 a. m. July 5th with fluid aspirated from the Chinaman the day before he died. This guinea pig died July 8th at 1 a. m. and the autopsy, which was performed by Dr. Brady, Assistant Pathologist at Cooper Medical College on the morning of the 8th, was witnessed by Drs. Hirshfelder, Ryfkogel, Krone, Fagan and myself. Coagulation necrosis and subcutaneous edema and hemorrhages were marked. The heart muscle was intensely hyperemic and soft, the vessels engorged and the hearts blood fluid. Spleen about four times normal size, very soft and friable and covered with yellowish white spots. The peritoneum was hyperemic, contained considerable blood tinged and turbid fluid and the mesentery and peritoneum covering the intestines contained numerous hemorrhages.

Bacteriological examination.—Cover slip preparations made at the time of autopsy of the Chinaman showed numerous short bacilli with rounded ends and bipolar staining in the inflamed lymph nodes and in lesser numbers in the spleen. Cover slip preparations made at the time of autopsy of Dr. Hirshfelder's guinea pig, from the heart's blood, spleen and inoculation wound showed numerous organisms corresponding morphologically and in staining reactions as described above to the bacillus of plague. Smears from the spleen and inoculation wound of guinea pig No. 1 inoculated with gland from the Chinaman and smears from the blood, spleen and inoculation wound of guinea pig No. 2 inoculated with spleen of the Chinaman showed the same bacilli in large numbers. Cultures from all these sources showed that the organism existed in pure culture in the spleen of the Chinaman and in the blood and spleen of Dr. Hirshfelder's guinea pig and in the same locations in my guinea pig No. 2 and the pig inoculated from Dr. Hirshfelder's pig. This organism having been obtained in pure culture from all these sources was found to be a short bacillus with rounded ends, bipolar staining and decolorizing by Gram's method. It was nonmotile, did not produce gas, nor liquify gelatine, and was aerobic and facultative anaerobic. It did not cloud bouillon but formed little floccules in it with a sediment in the bottom and a film on the surface. Colonies on agar were small, nearly round, opalescent and very faintly granular.

A summary of the foregoing will show the following interesting facts: 1. A Chinaman from the infected district is admitted to the City and County Hospital with fever, delirium and a large and painful bubo, the three principal symptoms of bubonic plague. 2. A reliable history is obtained of an illness of only three or four days duration. 3. The chief attending physician suspects plague and orders the patient isolated. 4. A guinea pig is inoculated with fluid extracted from the bubo the day before the death of the patient. 5. The patient dies and is autopsied, the result showing that he died of an acute bacterial infection, such as bubonic plague is, and absolutely nothing else was found. 6. The guinea pig dies and is autopsied, the result showing that it died also of an acute bacterial infection. 7. Subsequent cultural and inoculation experiments by the official bacteriologists of the United States Marine Hospital Service, the State Board of Health and the City Board of Health, proved absolutely to the satisfaction of all of them the following: (a) The bacillus, which caused the death of the guinea pig was the only organism present in the said pig. (b) This organism was the bacillus of plague. (c) The bacillus of plague, which killed the guinea pig was obtained from the Chinaman while still alive. (d) The same bacillus of plague was found in the spleen of the Chinaman. (e) No other organism was found in the spleen of the Chinamen. (f) In the identification of this bacillus all the postulates of Koch have been fulfilled to the letter. (g) The Chinaman was suffering from bubonic plague when he entered the hospital, he died of bubonic plague and no other sufficient condition or disease was found at the autopsy.

In conclusion I would say of this case, that it is the famous "living case" which you have been reminded by everybody opposing your honorable Board, was something you had never seen or never would see. I wish also to take this occasion to say that my findings in either this or previous cases have been fully confirmed by the following eminent authorities: Dr. Kinyoun, U. S. M. H. S.; Dr. Ophüls, of Cooper Medical College; Dr. Ryfkogel, bacteriologist to the State Board of Health and professor of bacteriology in the University of California; Dr. Montgomery, Professor of Dermatology in the University of California; Dr. Fagan, of the Health Department of Victoria, B. C.; Dr. Hoffman, Bacteriologist to the Board of Health of Honolulu; Dr. Day, member of the Board of Health of Honolulu; Dr. Raymond, of Honolulu, and by innumerable medical men of the higher grade of intelligence and integrity.

Respectfully submitted,

W. H. KELLOGG.

SAN FRANCISCO QUARANTINE STATION,
ANGEL ISLAND, CALIFORNIA.
July 31, 1900.

Dr. John M. Williamson, President San Francisco Board of Health, San Francisco, California—

SIR: In response to your request, I take pleasure in submitting to you a statement which embodies the results of my investigations of specimens and cultures obtained from the body of a Chinese who died in the City and County Hospital on the 6th instant. It was through the courtesy of your Board and the hospital authorities that I was permitted, with others, not only to be present and witness the autopsy, but to obtain cultures and necessary material for my examination.

The specimens obtained at the autopsy were taken immediately from the cadaver and transferred to sterilized receptacles and properly labeled. Cultures were also direct from the heart's blood, the spleen and inflamed glands on solid media and labeled accordingly. Cover slip preparations made from the splenic pulp and gland substance and stained, showed, on microscopical examination, the presence of a short rounded end bacillus in large numbers. These bacilli having a tendency to bipolar staining. They were also easily decolorized by Gram's method.

On the same day, in the afternoon, a monkey, a white rat and two guinea pigs were inoculated with the material obtained from the body of the Chinese. The monkey, rat and one guinea pig were inoculated with the emulsion made from gland tissue, while the remaining guinea pig was given an emulsion from the splenic tissue. These animals all died. The monkey was dead at the end of sixty-six hours, the rat at fifty hours, and the guinea pigs at thirty and forty-two hours respectively. The post mortem appearances of the organs and tissues of these animals were similar, and were characteristic of those found in experimental plague infection. That is to say, animals similarly inoculated with pure cultures of bacillus of plague.

Microscopical examination made of all the organs of these animals, as well as from the blood, showed the presence of the same short bacilli in enormous numbers, as was also found in the tissues of the dead Chinese. The morphology, grouping and staining reactions of these bacilli were in every way identical to those of the plague bacillus. Cultivations were also made from the several organs of the animals, with the result that within less than thirty-six hours small colonies of an organism began to make their appearance upon the surface of the blood serum and agar-agar. These colonies were transparent, slightly irregular in contour, and slightly raised above the surface. Cover slip preparations from these colonies proved them to be the same organism as those encountered in the tissues of the dead Chinese and animals inoculated with specimens therefrom.

The cultivations, which were made direct from the tissues of the Chinese at the time of the autopsy, gave the same results as outlined above. Small colonies made their appearance at the end of thirty hours, which, on examination, were found to be the same organism. These two sets of cultures, that is to say, those obtanied direct from the tissues at the time of the autopsy and the others from animals inoculated therefrom, prove them to be morphologically, biologically and in their chemical and staining reactions, identical.

On July 18th another set of animals were inoculated with pure cultures obtained *direct* from the tissues of the dead Chinese, with the result that the rats and guinea pigs died of a typical plague septicaemia, differing in no wise from those inoculated with the tissues. Cultivations made from the organs of these animals gave pure cultures of the bacillus of plague.

It is a fact worthy to note at this juncture that pigeons inoculated with large quantities of this pure culture (virulent to rats and guinea pigs in from thirty to forty-eight hours), fails to kill or affect them in any way whatsoever.

Experiments were also made on animals by inoculating them with large quantities of a pure culture of the virulent organism, and following it with a small quantity of Yersin's anti-pest serum. The animals receiving both culture and serum survived, while the controls invariably died with true plague infection.

The experiments which I have just completed in which the organism isolated from the tissues of the dead Chinese have been subjected to all the tests known to science, demonstrate that it responds in every particular to the bacillus of plague.

The cultures isolated from this case have been compared with those obtained from other sources, namely: Bombay, Honolulu, Kobe, and those isolated from cases previously occurring in this city, show them to be identical.

The clinical history, post mortem findings and bacteriological examination prove conclusively that the cause of death of the Chinese dying July 6th was that of genuine bubonic plague.

It appears to an unprejudiced observer that this case furnishes every link in the chain of evidence in demonstrating to the most skeptical, and I might add, to the most intentionally ignorant, the presence of plague infection in San Francisco. Respectfully,

J. J. KINYOUN,
Surgeon M. H. S., Quarantine Officer.

THE PLAGUE IN CHINATOWN.

By W. G. HAY, M. D., Assistant to the Chair of Dermatology, Medical Dept., Univ. of Cal., etc.

Read before the California Academy of Medicine, May 28, 1900.

Through the courtesy of Dr. Kellogg I have had the privilege of examining some of the material from recent cases found in the Chinese quarter, and having also seen the clinical side of the picture, I must express my positive conviction that there were up to the date that I was relieved, at least two cases of the genuine plague in the aforesaid section of the city.

About the time that the first case was reported I received a verbal message from Dr. W. E. Taylor, U. S. Naval Inspector, stationed at Honolulu, that this city would surely become infected, as some freight which was found to contain the plague bacillus was landed partly here and partly at Port Townsend. We know from the reports of the federal medical staff, vouched for by the Surgeon-General of the Marine Hospital Service, that there was more than one case at Port Townsend, which simply proves Dr. Taylor's previously expressed opinion. Furthermore, Dr. Taylor said he was informed that on the Nippon Maru three Chinamen died and were burned in her furnaces after leaving San Francisco on her westward trip.* The question that arises in my mind is: why does not the Government prosecute the Japanese Steamship Company for what I presume is an infraction of the law?

Now as to work in Chinatown, Dr. Wilson and others are better posted than am I. Everyone from Health Officer O'Brien and Chief Sanitary Inspector Chalmers down to the humblest employee of the Board, was rushed into Chinatown at the first alarm. The work consisted in making a house to house inspection. In attempting to do this we had to crawl through an intricate maze of rat holes which made the situation puzzling as well as disagreeable and difficult. The Chinese seem to have some superstition about anyone dying in their houses and they strenuously object to autopsies. For these reasons, and possibly for other reasons of which I am ignorant, they hide their sick and dead, and where an inspection seems imminent they whisk the poor creatures from room to room and building to building with such neatness and despatch that no white man can follow them. Their tricks are manifold. One instance will suffice. A house on Waverly Place was inspected by myself and squad. As you can easily imagine, an inspection of each individual in a thickly-populated district is impossible. In a room were five Chinese seated at a table and apparently playing dominoes. Several inspectors looked over and under everything. Two hours later one of the Chinese was dead, having been sick for months, and during the inspection, the advent of which the wily heathen seem to know by instinct, he had been braced up against the table and his hand placed over the dominoes. The police were vigorous and of great aid. They worked — a thing that has never been acknowledged by the press nor considered possible by the public. Until this time I was somewhat skeptical myself. The lay inspectors were willing but lost some ambition toward the last from the incessant attacks of the newspapers, whose comments were so outrageous that my vocabulary is too limited to make a suitable reply. But I will say that if abuse and falsities make politics, may God preserve me from being a politician. The better class of Chinese—the merchants—heartily approved of the inspection, but among the poor class of coolies and depraved white men we met with some opposition. You encounter inscrutable faces and a parrot-like and most irritating answer of "no sabe, no sabe." The work accomplished in Chinatown is much greater than anyone can appreciate on a casual inspection. I can only relate what I saw myself. The rubbish of fifty years was burned; the sewers were repaired; incidentally, in one place the rascals did not use the closet provided, but instead cut holes in the wooden sewer, and when the sewer was congested from flushing by rain or by artificial means, the contents of course, were discharged into the room, and more nasty yet, under the bunks in which they slept. That was attended to. The Chinese were ordered to sleep above ground. Whitewash, chloride of lime and formaldehyde were used unsparingly. All this has produced a change of appearance that may disappoint tourists but vastly improves that district. The Chinese themselves seemed to awake from their pipe dreams and try to clean up, although I must confess that the awakening was induced by methods that frequently were unpleasant to them, e. g., axes, crow-bars, etc.

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*This is probably an error. Two bodies were burned, and one, a woman's, buried at sea, on its eastern trip toward San Francisco.

Since being taken off that detail I understand that several cases have been discovered, but as to recent work I am uninformed. All that I personally was able to accomplish was the discovery of one leper, several dead Chinamen, black as ink, in rooms that I had visited a few hours before, and where I had found nobody ill, numbers of tuberculous and syphilitic men, an abundant odor and the destruction of a suit of clothes.

EXAMINATION OF THE BLOOD AS AN AID IN SURGICAL DIAGNOSIS.

By **WALLACE I. TERRY, M. D.**, San Francisco.

Read before the Medical Society of the State of California, April, 1900.

Of the various aids in surgical diagnosis which have been brought forward in the past decade, none seem to me so generally applicable as blood-examinations. They are not technically difficult to make; do not require a longer time than a sputum or a complete urinary examination; and when taken in conjunction with other means, are very valuable in clearing up or confirming many diagnoses. So far has their value been established that they are a matter of routine practice in many hospitals and by numerous practitioners. It is to be understood, however, that hematology is still in its formative period and much work remains to be done, especially as regards surgical affections, before it can be deemed an exact science. By blood examinations I mean to include only the counting of red and white corpuscles, estimation of hemoglobin, and the study of stained specimens. For counting the red and white corpuscles, the Thoma-Zeiss apparatus is generally employed. This consists essentially of a capillary tube with a small chamber for diluting a drop or two of blood, and a glass slide on which are ruled minute squares for readily counting the corpuscles under a microscope. Hemoglobin may be approximately determined from the specific gravity of a drop of blood suspended in a liquid of known density, or it may be more accurately estimated by means of Von Fleischl's hemoglobinometer by which readings of the color of the blood are made. There are various methods of staining the blood, but the Ehrlich tricolor stain seems to give the best results.

One of the commonest surgical conditions met with is the presence of pus. For the determination of this, we have a reliable aid in a count of the white corpuscles, for, with but few exceptions, pus is accompanied by a leucocytosis. We mean by the term leucocytosis that the blood contains 9,000 or more leucocytes to the cubic millimetre. The amount of leucocytosis does not always run parallel with the amount of pus, but depends upon several factors, the principal ones being the severity of the infection and the resistence of the patient. Cabot sums up the matter in this way: "1. Infection mild; resistence good; small leucocytosis. 2. Infection less mild; resistence less good; moderate leucocytosis. 3. Infection severe; resistence good; very marked leucocytosis. 4. Infection severe; resistence poor; no leucocytosis." The so-called "cold abscesses" due to tuberculosis are not accompanied by a leucocytosis, unless the infection be a mixed one.

The difficulty of diagnosing deep-seated abscesses is oftentimes great, but many such cases are cleared up by a blood-count. Thus, for instance, in a case of abscess of the liver, which occurred in the service of Dr. T. W. Huntington at the City and County Hospital, a diagnosis was definitely arrived at as soon as a blood-count had been made, showing a leucocytosis of 30,000.

It is to be remembered that certain leucocytoses are physiological in character and not pathological. Such are: the greater proportion of leucocytes in the blood of children up to the sixth year; the leucocytosis following digestion; the leucocytosis, which generally occurs in the latter months of pregnancy; post-partum leucocytosis; and the leucocytosis of the moribund state. Some drugs, especially the coal-tar antipyretics, are capable of producing a leucocytosis. All these are of course to be excluded before concluding that a pathological leucocytosis is present in any given case. Just why an increase in the number of white corpuscles occurs in the presence of an infection, we do not exactly know, but a number of theories have been formulated. Among these is Metschnikoff's, that the white corpuscles are phagocytic in action, one of their functions being to destroy bacteria, and that these phagocytes are summoned out of their normal habitations—principally the lymphatic channels—to wage war against invaders of the system. This martial theory, modified by the statement that the leucocytes furnish a material, which will counteract the various toxins elaborated by bacteria, has been received by many authorities as a good working hypothesis to account for leucocytosis. Biological chemistry, which is advancing with such rapid strides, may be the means of solving the question in the near future.

In appendicitis, we have quite a mass of statistics which show that this disease is generally accompanied by a leucocytosis. When a differential diagnosis must be made between appendicitis, hepatic and renal colic, acute indigestion, and typhoid fever, a blood-count offers great assistance, for only the first-named produces a leucocytosis. In the mild or catarrhal form we usually find a moderate leucocytosis, while if active suppuration be taking place, the leucocytes are considerably increased in number. The information to be gained in this way is especially useful when there is a question as to the propriety or impropriety of delaying an operation. Temperature, pulse and pain are often deceptive guides and the additional light that a blood-count may throw on a case should not be disregarded. The interpretation of the blood findings in cases of appendicitis is often a matter of difficulty, but to aid us in this, we have these conclusions of Greenough of Boston, who has evidently made a careful study of the subject: 1. Leucocytosis may be considered to be a fairly constant symptom of appendicitis. 2. The presence or absence of leucocytosis, without other data, is not sufficient to determine the local condition of the appendix and its surroundings. 3. In a series of cases, the degree of leucocytosis corresponds roughly with the degree of temperature, but in individual cases great variations are found. 4. The degree of leucocytosis, when considered in connection with the duration of the attack, is of considerable assistance in the diagnosis of the local condition. 5. A high leucocytosis (above 20,000) on the first or second day of the disease suggests general peritonitis. 6. A low blood-count, below 10,000, after the first week, if accompanied by severe symptoms, indicates general peritonitis, and is of grave prognostic significance; but if accompanied by mild symptoms, denotes a mild catarrhal process or a well walled-off abscess which has become subacute in character. 7. A high leucocytosis, above 20,000, after the first week or ten days may be taken to indicate a local abscess." (Quoted by Richardson in Am. J. Med. Sc. Dec. 1899.) As another type of a suppurative process take osteomyelitis. This disease has been mistaken for rheumatism, neuralgia and other conditions. With the aid of a blood-count we need scarcely make such an error in diagnosis, for acute osteomyelitis produces a leucocytosis, which the other diseases, except acute articular rheumatism, do not. Acute articular rheumatism may be excluded by other symptoms, especially the site of pain and the multiplicity of the joints involved. Gonorrhea is usually accompanied by only a moderate leucocytosis, but in a case of gonorrheal arthritis seen at the City and County Hospital a blood-count showed 18,000 leucocytes, and the case was proved by bacteriological examination to be a pure gonococcus infection. Negative evidence is often of much value in blood-counts, as for instance in floating kidney, which might be mistaken for appendicitis, abscesses, etc. The fact that floating kidney is not accompanied by a leucocytosis or other blood changes may serve to make the diagnosis clear. Hysteria is often made the scrapegoat for many morbid processes. Before this diagnosis can with certainty be made, we should know that the blood is normal. After operations, it is frequently difficult to determine whether collapse is due to hemorrhage or shock of nervous origin. This point may be rapidly ascertained by an examination of the blood. In shock of nervous origin, the blood shows no change, while in hemorrhage there is a diminution in the red corpuscles, a decrease in the hemoglobin percentage and later an increase of the white corpuscles. Post-operative pyrexia may be due to various causes, the principal ones being infection, fecal impaction and malaria. Infection is evidenced by a leucocytosis; fecal impaction causes no blood changes; while the presence of the plasmodium malariæ in the blood determines the diagnosis of malaria. Again, we know that a severe post-operative infection may occur without giving any warning by the temperature or pulse of the patient. It does, however, make its mark in the blood in the shape of a rise in the number of leucocytes. For this reason, it is a wise precaution to have blood-counts made frequently after a major operation. The subject of malignant disease, especially carcinoma and sarcoma, is an exceedingly important one from a diagnostic point of view. Unfortunately we have as yet been able to obtain but little information from the blood in these cases. Further investigations are being carried out in this line and it is to be hoped that they will yield good results. What has been learned is that carcinoma of the breast is usually accompanied by a leucocytosis, and that in carcinoma of the stomach there is an absence of digestion leucocytosis, which is, however, also true of chronic gastritis. It is believed that in the hemoglobin we have an index of the resisting power of a patient. Taking the normal amount of hemoglobin as 100 per cent, it is claimed by Mickulicz and others that an operation should not be done on a patient whose hemoglobin is as low as 30 per cent. A general anesthetic and any loss of blood produces a fall in hemoglobin and as the minimum amount compatible with life is about 20 per cent, it is easy to understand that a patient with only 30 per cent would stand a very poor chance of recovery from an operation. Estimations of the amount of hemoglobin are also of use after operations to determine the rate of regeneration of blood.

When specimens of blood are stained and examined under the microscope, it will be noted that the white corpuscles are not all alike. They are generally grouped under four varieties, viz: small lymphocytes, large lymphocytes, polymorphonuclear neutrophiles and eosinophiles. Of these the polymorphonuclear neutrophiles and the small lymphocytes form the larger proportion in the blood, but in disease the proportions are sometimes greatly altered. There is considerable to be learned from a study of the stained blood, but the subject is a long one and will not be dwelt upon in this brief paper. In a general way, however, it may be stated that an increase in the polymorphonuclear forms is an indication of pus, and that a true leucocytosis implies an increase of those cells. We can also ascertain the presence of the plasmodium malariæ and other parasites in the blood by means of stained specimens.

To sum up the value of blood examinations in surgical conditions, it might be stated thus: 1. Before an operation; (a) to aid in the diagnosis; (b) to determine the general condition of the patient. 2. After an operation; (a) to ascertain the presence and course of any infection; (b) to keep track of the general condition. The object of this paper has not been to give a complete resumé of the subject of blood examinations in their relation to surgery, nor to discuss questions that are still subjudice, but only to draw attention in a very general way to their importance to the surgeon as a diagnostic aid.

1010 Sutter St.

THE PROPER TIME TO BEGIN THE TREATMENT OF CROSS EYES.

By **Vard H. Hulen**, A. M., M. D., San Francisco.

Read before the San Francisco County Medical Society April, 1900.

A word on this subject may be of some interest to the general practitioner because children with strabismus very frequently come under the observation of the family physician soon after the appearance of the squint. The opportunity and privilege, therefore, is his to correct the erroneous and quite general impression that nothing can be done in these cases until the patient is six or seven years of age, or even older.

The infant begins life with perception of light only, which is gradually developed into perception of form, fixation of objects and fusion of the images of the two eyes. Should any hinderance to the development and perfection of these powers occur the sooner it is given attention the simpler the task of preventing the permanent visual disability and deformity which may result.

Strabismus usually appears between the second and sixth years of the patient's life. In fact more than fifty per cent of all cases of squint appears before the age of three years. The deviation from parallelism may be noticed in the beginning only occasionally, but in the course of a few weeks or months the squint becomes constant and more marked in degree. Also at first it may be difficult or impossible to say which eye is more at fault, but if the case does not receive treatment the squint may become monocular and the prognosis is then much more unfavorable. Parents often tell the oculist that they have noticed that their children's eyes were "turned" for one, two, three or more years but treatment has been delayed because the patients were thought too young. There was also the hope that the affliction would be outgrown. This is an error and often a most unfortunate one because it is during the early period of heterotropia that the ocular changes are developed and habits formed which are so difficult or impossible to overcome by later treatment. True non-paraletic strabismus is not "outgrown," though once in a great while a squinting eye has become straight spontaneously. But in these exceptional cases it will be found that the patient has one amblyopic eye resulting, and the sight will remain poor regardless of the most skillful attention. Fixation and fusion while developed during the first few weeks of life are for a year or more very unstable, hence easily perverted and lost. And in many cases of strabismus the ability to "fix" an object with the offending eye, when the good one is covered, is lacking or very deficient though fixation is not lost as long as the squint is periodic or alterating. False fixation is rarely ever seen in strabismus of less duration than six months, and is usually present in those cases of very early development of the squint with delay in treatment. False fixation occurs in a very large percentage of monolateral squint, and in these cases a good cosmetic result only can be obtained from any treatment and that with much uncertainty. In other neglected cases after the eyes are brought into parallelism by operative measures the patients are unable to fuse the images of the two eyes even after much persistance, and great annoyance and dissatisfaction result. In nearly all cases of squint of long standing structural changes take place in the ocular muscles themselves, with limited motion of the eyes in certain directions, and the correction of the deformity becomes more complicated and difficult. In not a few cases of strabismus the vision of the squinting eye deteriorates due apparently to its lack of use, and sometimes the loss of vision is very rapid.

It will therefore be seen that there are many serious disadvantages in delaying the treatment of strabismus which can be avoided by beginning treatment just as soon as it is noticed that the child's eyes are crossed. This is the time to interfere no matter how young the patient may be, and this is the proper time to begin the treatment of cross-eyes. It is not the purpose of this paper to discuss the treatment of cross-eyes, but it may be well to add that it is both operative and non-operative. Where the patients are seen in time, and all the other means of correction are duly carried out many of the cases will require no operative procedure whatever. Parents should be made to understand this fact for they frequently delay bringing their children for treatment because of the natural but groundless fear of "having the eyes cut."

406 Sutter St.

HOSPITAL NOTES.

CALIFORNIA EYE AND EAR HOSPITAL.

By Louis C. Deane, M. D., Surgeon to the Hospital, Etc.

A NEW MYDRIATIC.

The hydrochlorate of euphthalmin is a new mydriatic which has come into general use in the past two years. It has features of its own so unique and differing in certain respects from the other mydriatics in use that it is a drug that will certainly become popular. It is a white, crystalline powder which is very soluble in water. In 5 to 10 per cent strength it is an active mydriatic, dilating the pupil to its maximum within twenty minutes. Euphthalmin differs from other mydriatics in two particulars: first, it does not affect the accommodation and consequently does not blur the vision; second, its mydriatic effect passes off within three hours. Other features of lesser importance are, it does not irritate the conjunctiva neither does it increase intra ocular pressure. No toxic symptoms have been noted from its use. In short, it affects the size of the pupil only and passes off quickly. Its value over other mydriatics is primarily in clinical examinations of the fundus, where we do not desire to greatly inconvenience the patient but wish to make a thorough examination of the lens or of the fundus through possibly a hazy, vitreous, nebulous cornea, etc. It is of value in a suspected iritis where we desire to test the reaction of the iris to a mydriatic. In discission for soft or secondary cataract, it dilates the pupil temporarily to allow for the operation without increasing the tendency to glaucoma. If added to cocain its action is accelerated and much weaker solutions can be used. It is also claimed that thus its effect passes off somewhat sooner.

Cocain Hydrochlorate	1 part
Euphthalmin Hydrochlorate	1 part
Distilled water	100 parts

I have used euphthalmin for the past fourteen months in private and hospital practice with marked and satisfactory results.

L. C. D.

QUININ AMBLYOPIA WITH A STRIKING EYE-GROUND.

Straub. (Weekblad v. Geneesk, Oct. 7, 1899,) reports the case of a man who, on the advice of an empiric, took 3 grams of quinin at one dose, followed in three hours with great depression, terrible fullness in the ears, developing in a couple of hours into complete deafness and blindness. The deafness passed gradually away in three days, but after five days from the time of ingestion of the quinin, the patient appeared at the clinic still blind. The ophthalmoscope showed at this time a pronounced retinal edema all about the papilla, the vessels being entirely obscured by the edema. The fovea centralis presented the appearance seen in embolism of the central artery. By the fourteenth day the edema had disappeared entirely when the pupil was found to react sluggishly. There was no return of light perception until the 26th day, from which point improvement went on slowly, resulting, however, in very poor vision and an exceedingly narrow visual field, although the retinal light was preserved well out into the periphery showing that its function was not entirely in abeyance. The final appearance of the eye-ground was that of optic atrophy, one of the vessels showing especial constriction at one spot, and the arteries exhibited gray lines accompanying them, the result of arteriosclerosis.

Redmond Payne.

TUBERCULOSIS OF THE UPPER AIR PASSAGES.

Chiari (Berl. Klin. Noch., vol. 45-47, 1899), gives the following modes of infection of other organs and of the entire organism following primary tuberculosis of the upper air passages: 1. The swallowing of the secretion of tuberculous ulcers situated in the upper air passages can infect the larynx and the intestinal tract. This mode is rare, as the primary forms of tuberculosis in the post nasal space and in the tonsils are generally latent and produce very little secretion. 2. The same is true of aspiration into the trachea and the bronchial tubes. 3. Continuous extension of the ulcers to the neighboring organs. 4. The secretion of tuberculous ulcers of the naso-pharyngeal cavity can find its way directly into the eustachian tube. 5. Bacilli from the naso-pharyngeal cavity can enter the middle ear by way of the lymph channels. 6. Bacilli can enter the blood vessels from ulcerated tuberculous tonsils or adenoids from lupus ulceration or from ulcerated lymph glands. 7. Ulcerated adenoids can infect the retro-pharyngeal lymph glands and these the cervical vertebrae. 8. In the same manner the meninges can become infected. 9. From the infected lymph glands bacilli can enter the ductus thoracicus, the vena cava, the right heart and thence directly the lung.

Robt. D. Cohn.

Occidental Medical Times

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SAN FRANCISCO, AUGUST, 1900.

"A BACTERIOLOGIC RESUME OF THE SAN FRANCISCO PLAGUE."

The above is the title of an article by Ernest Pillsbury, M. D., which appeared in the Philadelphia Medical Journal, July 21, 1900.

In commenting upon it, we desire to apologize to the bacteriologist for our action; but, owing to the great amount of confusion in the medical mind, which this article tends to increase, we deem it worthy of some comment and many corrections. Experts, as well as general practitioners, are fully aware of the difficulty of diagnosis in certain diseases from bacteriological study alone; and "to rely for a positive diagnosis on the microscopical examination of any of the bacteria known without a knoweldge of its clinical source," is to our minds a matter of erudition and expertness, and not of ignorance of the similarity of these or any group of bacteria. The expert realizes these difficulties and before making his report, enters into every detail and verification of his studies. To rely on the microscopical examination alone is not by any means an entirely unknown or unreliable factor for "it seems possible to make a diagnosis of the plague in doubtful cases by examining the blood, but it is admitted that a good deal of bacteriological practice is necessary for this purpose. (Kitasato, McFarland, Sajous Annual, 20th Century Practice.) The Board of Health and its co-workers have not relied upon any one test, as Dr. Pillsbury would infer. In shape the pest bacillus and that the bacillus septicemiæ hemorrhagica resemble each other closely and they stain similarly, but their growth is different and their pathogenic characteristics markedly diverse. The colon bacillus is not similar in many ways and is rarely stained at its poles. The characteristics of this latter are strikingly different from those of the above forms of germs, and owing to its wide distribution, needs no comment. "To prove bacteriologically the pest bacillus, it will be necessary, as I have shown above, to differentiate with cultures and animal inoculations between it and the bacillus septicemiæ hemorrhageiæ." This, Dr. Pillsbury, if this article is the culmination of his work, did not do. On the contrary by the Board of Health, Dr. Kinyoun, and all who examined the specimens, this was done most thoroughly; all their experimental work has been sustained in its entirety, by every statement of Wyman and Haffkine. The bacillus septicemiæ hemorrhagica is pathogenic to chickens, geese, pigeons, sparrows, mice, rabbits, pheasants, swine, cattle, deer, hogs and to guinea pigs in very large doses. McFarland, Sternberg, Kitasato, Sajous Annual, Levy and Klemperer, Ball, 20th Century Practice.) The bacillus pestis is pathogenic to man, rats, mice, guinea pigs, rabbits, monkeys and squirrels, but not pigeons. (Kitasato, Sternberg, McFarland, Levy and Klemperer, Sajous Annual.) Death from the plague bacillus in these animals is certain and rapid. Death from the bacillus of hemorrhagica septicemia occurs only in guinea pigs when large doses are administered and is rapidly fatal to pigeons, chickens, etc. We can find no definite allusions to the effect of the bacillus hemorrhagica on rats, though it produces fatal results in mice. Dr. Pillsbury admits that these bacteria, which he claims are those of chicken cholera have killed Chinamen. We ask him to give one instance of death in man from the chicken cholera bacillus. If his conclusions are correct, that this bacillus is pathogenic to man; and exists so widely distributed as he truely claims, then the whole world is in infinitely more danger from this bacillus than from that of the bacillus pestis. His admission that these bacilli are pathogenic to man destroys his theory that they belong to the chicken cholera group according to the world's authorities. He should remember that Pasteur advocated the use of this bacillus to destroy the rabbits in Australia; that its existence in swine and chickens would cause many deaths in other parts of the world than those known to be infected with the plague, and instead of this disease being confined to several blocks in Chinatown, that cases would occur at any and all times in this and other cities.

With regard to the case of Chee Yee Yan, it is interesting to know that a man, who had been sick a year and a half, could at the time of his death look so robust and be of such an athletic mold and be so fleshy and well developed, weighing 175 pounds, especially when the pathological lesions show no destructive organic disease, but, as Dr. Pillsbury admits, death from a bacillus resembling the chicken cholera bacillus or the bacillus pestis. He states that this man died of the pneumonic form of the plague, but that this man or any of the thirteen cases reported died of this is absolutely without foundation and no such claim has ever been made by the Board of Health or anyone working with them. It has been distinctly and emphatically stated that every case has been of the bubonic form. Even Dr. Pillsbury examined the glands and makes no reference to any pneumonia. Special reference is made to the glands taken from this case,—that from the neck was about 15 mm. in its longest diameter, and that from the groin, about 10 mm. in diameter. Dr. Kellogg from the same four-inch incision, from which Dr. Pillsbury removed the 10 mm. gland, removed one which he evidently had overlooked two or three times as large. The various bacteriologists, who examined the germs from these glands, found no difference upon examination. Every examination gave uniform results. Involution forms were found by each examiner. They made cultures, which independently gave similar results, each finding constantly the bacillus pestis.

For the sake of brevity we accept that there are "slight differences to be noted between the growth of this (chicken cholera) bacillus and that of the pest bacillus on gelatin, agar-agar and on glucose sugar;" but in a matter so important they should have been carefully determined. According to the highest authorities, these difference are very marked. (Levy & Klemperer, McFarland, Sternberg, Kitasato, 20th Century Practice.) "On potato and in bouillon these differences were more marked. On potato, the growth was a shiny, white or waxy layer, while the pest bacillus grows as a scanty, whitish-gray coating." On potato authorities deny the existence of any growth of chicken cholera bacillus at ordinary temperature. McFarland says, "Upon potato no growth occurs except at the incubation temperature. It is a very insignificant, yellowish-gray, translucent film." The bacillus pestis grows, if at all, as a "scanty, dry, whitish layer at 37 degrees." (McFarland, Levy & Klemperer, Kitasato.) Dr. Pillsbury's growth was a shiny, white, waxy layer. It is strange that the growth on bouillon alone varied in the hands of Dr. Pillsbury. Of 50 cultures in one laboratory, all gave perfect results. The same media gave exact results in the hands of all the other experimenters.

"Because this bacillus is commonly known as the chicken cholera, there is no reason why it should be confined to the lower animals as pathogenic." That there is no reason may seem clear to some, but the fact remains that it is not pathogenic to man. "These (chicken cholera), however, are larger than the plague bacilli and are of absolutely no significance in relation to human beings." (Levy and Klemperer.) There are many organisms confined to lower animals not pathogenic to man, and, unfortunately in this particular instance, the chicken cholera bacillus is one of them. Sternberg does not say that the chicken cholera bacillus, which has been found in the salivary secretion of man, is pathogenic to man, nor does he give any proof of its having caused a lymphangitis in man. Dr. Pillsbury admits having found it in three cases. Other experimenters have found it in every case and they have differentiated it by animal inoculation and microscopical examination to have been present in all cases. Drs. Kinyoun and Ryfkogel inoculated pigeons with this bacillus and the pigeons did not die. Control experiments were made to verify this result. Dr. Pillsbury's contention therefore is not above suspicion, it is evasive and insufficient and leaves him open to criticism, for he has either found a new bacillus which is neither probable nor true or he is unable to differentiate between the chicken cholera and the pest bacillus.

"In these cases of supposed bubonic plague, it must be noted that the glands of the neck are most frequently enlarged while the glands in the groin are rarely enlarged." It should be noted here that he admits that these cases have been reported as bubonic plague, hence his frequent reference to the pneumonic form is puerile and misleading, and also to the size of the glands which has very little to do with the diagnosis. They have been found from the size of a pea to that of a walnut with all the infiltrations and characteristics of the bubonic plague. That the glands of the neck were enlarged only in two cases, as were the inguinal glands also, is true. The eleven other cases showed enlargement of the axillary, inguinal and femoral glands.

His statement that there is no possible connection between any two of the thirteen cases needs proof which he cannot give. The same can be said of his statement that no housemate or even a roommate has been infected. "That no entire house or even rooms have been fumigated or quarantined," except during the last month is false. Three blocks out of the twelve quarantined only have escaped death from the plague. We deny positively that the city has been previously free from the plague; that an infected ship has never reached this port; that the clinical history of the cases has been different from or that it has not been identical with the average case of plague; that the pathological and bacteriological examinations have varied one particle in their final results; that the cases are atypical, and in confirmation of the existence of the disease, we offer in evidence all that has appeared in the OCCIDENTAL MEDICAL TIMES on the subject, an editorial entitled "No Plague" in the Pacific Medical Journal and also case No. 13 presented in this issue. We do not care to consider any further the vacillating matter that has been recently published, except to state that most of it is of the same character as this article of Dr. Pillsbury's; also that the disease may be transmitted by means of body linen, clothes, bedding, rags, bagging, carpet, food stuff, grain, sweet-meats, etc;* and finally with our compliments to Dr. Pillsbury that as Dr. R. C. Cabot says: "A bacteriologist knows that some of his verdicts are relatively final—others less so and more subject to modification according to various other circumstances. He knows when his technic has been above suspicion, or when (either from the condition of the material furnished him, or the nature of the test attempted), his results are to be taken less seriously."

NORTHERN CALIFORNIA AS A HEALTH RESORT.

For several years we have carefully scanned all the literature at our command to discover some allusion to this part of our State as a territory suitable for the habitation of the invalid. With the exception of Dr. Solly's well known work on Climatology we have found nothing. He says: "It is curious to find the best record for dryness in California credited to a portion of the State only from 40 to 60 miles north of San Francisco on the slope of the Napa Valley." Dr. J. S. Hittel states that the average percentage of relative humidity at Atlas Peak, Napa Valley, is for Summer, 39 per cent; winter, 51 per cent; the year, 45 per cent; about the same as Denver. This single and most flattering statement, to a district only one of many in this garden spot of the world, will, in our opinion, some day be proven entirely true of the greater portion of this Northern country. It is a well known fact that the broad sweep of territory from the ocean to Los Angeles is exposed without a break of any importance in the landscape, so that the precipitation of moisture from the ocean breezes and fog causes a greater humidity in that district than is found in our Northern valleys, especially where they are protected by the range of mountains which run close to the coast line. This protection gives Napa Valley the above record. It should be credited likewise to all the valleys similarly situated. The foothills of the Sierras no doubt are well worthy the same praise, but unfortunately no studies of the section have been made. We do not believe that any land compares with this country in the matter of health, when we consider the areas having an altitude of 500 to 3,000 feet. Here little or no irrigation is needed, which, while not a menace to health, is of immense advantage. There is an abundance of forest and natural verdure, which renders the country more inviting to life in the open air and enables the invalid to find both leisure and occupation, a means and an essential one, to the restoration of health. The town of Auburn, with an altitude of 1,316 feet has long ago won for itself a place among the most favorable resorts of the world. The same may be said of other towns in the interior, Grass Valley, St. Helena, etc. As neither the time nor the opportunity have offered itself for a careful study of this subject and as this note is offered merely as a preliminary step to a more thorough and exhaustive study, we desire to confine our remarks to a section of country, famous for its productiveness and health, the Napa and, especially, the Russian River valleys. What may be said of the former is true of the latter. Dr. Solly's report should be sufficient to the most skeptical, but we know from actual experience that it is fully as true of the latter. In corroboration of our own opinion we offer the experience of a well qualified physician, who practiced in one of the towns in the Russian River Valley for five years. He enjoyed the largest practice in the community, and his honesty commends his opinion as being worthy of more than passing notice. He did not meet with a case of tuberculosis that had originated in that vicinity, nor did he know of but one that was contracted in that township; he had but one case of typhoid fever, contracted by drinking water from an old well in the rear of a blacksmith shop; three cases of diphtheria, no pneumonia, no severe bronchitis, no scarlet fever, a record supported by health reports in a well populated country that is truly remarkable. Several deaths occurred from tuberculosis of persons coming from other portions of the State or the East. A personal acquaintance with this territory fully corroborated these statements, verified on many occasions by the testimony of people, who have lived there for the last thirty years.

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*That the plague did not appear in Bombay until 1896; that some of our physicians, who have testified that they studied cases there before 1896, have placed themselves on record in a way that demands explanation.

In this warm belt, which similarly encircles every valley of the North, citrus fruit of all descriptions grows in great abundance, and its product is fast encroaching on similar districts usually considered more favorably situated. To tell the average citizen that oranges, lemons, figs, etc., grow in great abundance 100 miles or more above San Francisco, is to lay yourself open to derision. Here are hills covered with vines, orchards, trees and shrubs, with fertile valley intervening, offering occupation and outdoor life to the invalid the year round, with hunting, and fishing and at any elevation one may desire. In Russian River country one can live out of doors with comfort all the year round; camp life is most inviting, and its dryness and salubrity should give it a place second to none in our State.

We have made this particular valley the subject of this article because we are well acquainted with it. Our object is to urge the physician to study this locality carefully, and give to the world the benefit of his knowledge and the blessings Providence has so lavishly imposed upon his surroundings; and finally to enable us to go further with the work of placing Northern California on a plane where she belongs, as the most beautiful, most picturesque, most invigorating and health giving area in the world. Any information will be duly credited to those offering assistance.

TUBERCULOSIS IN SAN FRANCISCO.

A recent statistical report from the Board of Health is worthy of consideration from the profession. A classified statement of deaths from tuberculosis from the year 1875 to 1900, a period of twenty-five years, shows that the death rate of the foreign born population, that is of all not born in the State, has not increased, rather decreased since in 1875, when the death rate was 63.47 per cent and in 1899, 47.59 per cent. The highest was in 1881, 64.48 per cent; the lowest in 1896, 46.75 per cent. The death rate among those born in California in 1875 was 13.61 per cent; in 1900, 36.55 per cent, showing an awful and gradual increase. The lowest was in 1875 and the highest in 1898, 37.90 per cent. The death rate of those born in other parts of the United States has decreased since 1875, which was 22.92 per cent for that year and in 1899, 15.86 per cent. The highest at any time was 24.09 per cent in 1877; the lowest, 13.78 per cent, in 1898. These figures are full of suggestion not only to the profession, but to the community at large. To examine into the causes of this condition would require too long a discussion at this time. We believe that this is unwarranted and brought about not by the physical condition of the native born, but his manner of life and habits.

NOTES.

Lane Lectures.

The Fifth course of the Lane Medical Lectures, inaugurated in Cooper Medical College in 1896, will be given in 1900 by Sir Michael Foster, K. C. B., M. P., Professor of Physiology, University of Cambridge, England.

These lectures will be given on the days and hours as follows:

August 20, 11 a. m., Vesalius, his Forerunners and Followers: the beginning of Modern Physiology.

August 20, 8 p. m., Harvey, and the Circulation of the Blood. The Lacteals and Lymphatics.

August 21, 11 a. m., Borelli and the Influence of the new Physics.

August 21, 8 p. m., Malpighi and the Physiology of Glands and Tissues.

August 22, 11 a. m., van Helmont and the rise of Chemical Physiology.

August 22, 8 p. m., The Physiology of Sylvius and his Pupils. Digestion in the Seventeenth Century.

August 23, 11 a. m., The English School. The Physiology of Respiration in the Seventeenth Century.

August 23, 8 p. m., Priestly and Lavoisier. The Modern Doctrines of Respiration.

August 24, 11 a. m., Réaumur and Spallanzani. The Physiology of Digestion in the Eighteenth Century.

August 24, 8 p. m., Haller and the Physiology of the Nervous System.

L. C. Lane,
President of Cooper Medical College.

SOCIETY PROCEEDINGS.

SAN FRANCISCO COUNTY MEDICAL SOCIETY.

Regular Meeting, June 12th, 1900.

DEXTRO-CARDIA.

Dr. Eichler read a paper on dextro-cardia, presenting the case which was examined by the members.

NEW SIGN IN HEART DISEASE.

Dr. Abrams read a paper on "A New Physical Sign in the Recognition of Heart Dislocation and Enlargement," and presented his case in illustration, with the following remarks: "In so much as a case of dextrocardia was reported here this evening, I thought I would show you a case of heart disease. The young man whom I present to you I saw for the first time eight years ago; he has a congenital heart lesion, probably pulmonary stenosis. When I first saw him there was marked general cyanosis and dyspnea; his heart was then in a condition of incompetence. Percussion here demonstrates enormous dilation of both ventricles; the heart fundus reaches as high as the second rib. If we percuss his back, we find in the left interscapular region a circumscribed area of percussion dullness. This dullness disappears when the patient leans forward and reappears when he assumes an erect posture and increases in area when the patient learns backward. Over the area of dullness one hears bronchial respiration when the patient is erect, and when he leans forward there is a resumption of vesicular breathing. This symptom to which I have directed attention, I believed could only have been produced by a dislocation of the heart, but this case illustrates that an enlargement of the heart can produce the same symptom. For some months I have devoted myself to studying the fullness of the dilated stomach on the position of the heart, and in every case of dilated stomach where the patient complained of the sensation of pressure in the chest, or difficult breathing, the interscapular sign was present and could be relied on as the most trustworthy of difficult breathing, arising from the dilated stomach pressing upon the heart. That this interscapular sign is really caused by such condition, I have demonstrated in the following manner: By introducing a stomach tube and inflating the stomach with air I could produce this sign with all its phenomena. Carrying out this procedure under the X ray one could clearly see the dislocated heart pressing upon the lung. The phenomenon then, is due to compression of the lung by a dislocated heart, which pressure is realized when the patient leans forward, therefore dullness which is formerly present is supplanted by resonance. This sign is not recorded in the literature and must be regarded as an important and trustworthy sign, not only of displacement of the heart backward, but likewise of enlargement of the organ in the same direction."

ABSCESS OF LIVER.

A paper was read on "Abscess of the Liver" by Drs. Abrams and Levison. Dr. Levison then presented the case, which was examined by several members.

Dr. Rosenstirn: "I have but a few words to say about this case. I was not present at the operation, but was fortunate enough to see the patient the next day at the first change of dressing. At that time I saw five pints of pus evacuated from the abscess cavity and learned that the same quantity had been emptied the day before. It seemed to me that such a large quantity, ten pints, a gallon and a quarter, could have found room within the substance of the liver in the comparatively short time of his illness. I expressed my doubts to my colleague and ventured the explanation that the original abscess of the liver had broken into the sub-diaphragmatic space and a subphrenic abscess had resulted. The instrument entered the abscess cavity through the substance of the liver, which formed a part of the cavity wall. The introduced finger might have conveyed the impression of being surrounded by liver substance when in fact the diaphragm formed the upper and perhaps part of the lateral wall of the cavity. The palpating finger could only reach a small part of this enormous cavity. With all due deference to the diagnostic acumen of Dr. Abrams and Dr. Levison's operative skill, who having performed the operation is in better position to judge than I am, I still lean toward this view. However, in either case, whether an abscess of the liver or a subphrenic abscess, the result was most flattering for both the doctors and deserved the highest commendation."

Dr. Dudley Tait: "That an abscess containing ten pints of pus, demonstrated by the X ray to involve the convexity of the liver, should give so little evidence to the aspirating needle, is truly astonishing. I fail to see the propriety of the anterior abdominal incision after the location of the purulent cavity had been so accurately determined by the X ray. There are several modes of ascertaining the relative frequency of a given malady in this community. The worst undoubtedly is to consult the voluminous but equally ludicrous and unscientific documents, called statistics, which emanate from our local Board of Health; one of the best consists in comparing notes with colleagues who possess an average amount of material and sufficient assistants to utilize this material properly. Had the authors of the interesting paper of the evening adopted the latter plan, I am sure they would have modified their views and omitted all reference to the prevalence of hepatic abscess. Few surgeons of this city have failed to see and treat one or more liver abscesses. Personally, during the last seven years, and with my colleague, Dr. de Chantreau of the French Hospital, I have had eight cases; five were operated; all recovered. In one case evacuation through the bronchial tubes occurred while the patient was being prepared for the operation. In one case the condition was mistaken for left empyema. Resection of ribs and drainage proved valueless. The necropsy revealed abscess involving greater portions of the right and left lobes and numerous tubercles. In two cases with Dr. de Chantreau, the transpleural route (Israel's) was followed. After having shut off the pleural cavity by means of a running catgut suture, the abscess was easily reached and successfully drained. It is remarkable with what facility lesions of the convex surface of the liver may be reached and treated through the transpleural routes after an extensive resection of ribs. In two other cases, the clinical evidence and results of puncture pointed to the involvement of the lower anterior surface of the right lobe of the liver. Accordingly, an incision was made over the free border of the ribs, to the right of the gall bladder, a running suture being used to shut off the peritoneal cavity below the site of the hepatostomy. One of these cases was discharged cured fifteen days after operation. Recurrence after six months was noted in one of our transpleural cases. Dr. Caglieri very recently operated this case, making a very liberal resection of ribs, sectioning the intervening soft parts and curetting thoroughly the abscess cavity. The plan pursued here recalls Schede's operation for empyma. It may seem rash to use the curette in the liver, but the result proved satisfactory. From several French surgeons who had practised in Cochin-China and Africa, I learned to seldom if ever, choose the epigastric route in operation for hepatic abscess. The liver very frequently bulges in this region on account of the diminished resistance of the wall at this level, but in the great majority of cases the anterior incision leads to a considerable depth of healthy liver before reaching the purulent cavity, consequently hemorrhage, sometimes severe and often troublesome, will be encountered, and, furthermore, by this route it will be found impossible to explore more than a very limited area of the liver. The most frequent lesions, right lobe, hidden and compressed by the ribs, cannot be reached at all by the epigastric incision. If hepatic abscesses are found rather frequently at necropsies the fault lies, I believe, mostly with the physician, and is principally due to the faulty mode of using the exploring needle. My friend Dr. de Chantreau taught me never to fear the use of this method of diagnosis. In one case he succeeded in obtaining pus after having made, in a single seance, eight unsuccessful punctures in different portions of the liver. Whilst no one deserves blame for an error in the diagnosis of such obscure lesions as those of the liver, I am inclined to ascribe many of our mistakes to careless and incomplete examination. As an example of error in diagnosis I may quote the case of one of my present nurses in the French Hospital, who went from clinic to clinic, office to office, with the diagnosis, "much pleural effusion." He was blistered, burned and dosed ad nauseam. A liberal section of ribs enabled me to remove in toto a hydatid cyst of the convex surface of the liver, containing over a gallon of pus. In a second case, the patient was treated several months for ascites. The diagnosis of hydatid cyst of the liver was made after examination under anesthesia. Dr. Abrams confirmed the diagnosis which was subsequently made certain by laparotomy. The entire cyst was then removed."

Dr. John C. Spencer: "It was not my privilege to hear the paper of Dr. Abrams in its entirety; that which I have listened to, as well as the paper of Dr. Levison, has interested me greatly, because of their bearing upon a case recently under my own observation. The patient, a sea captain about 65, for many years a very hard drinker, presented himself with a considerable history of abdominal pain, referred to the right side chiefly with tenderness, and about ten days previously two sharp chills, on different days, loss of appetite and profuse night sweats appeared. Upon examination I found liver dullness down to the level of the umbilicus, great tenderness and some tympanites; tempe ature 101.5; bowels inclined to constipation. Treating the case symptomatically for a few days, as neither he nor his wife would permit of any exploratory punctures into the liver, the case passed out of my jurisdiction. He was removed to the U. S. Army Hospital at the Presidio, where punctures were made without finding pus and an operation was performed without finding an abscess. The man died after one week. My own diagnosis was abscess of the liver, and as I subsequently learned, this diagnosis corresponded to that made by the army surgeons."

Dr. A. W. Perry: "When practising in Louisiana about twenty-five years ago, I saw a considerable number of cases of abscess of the liver. These were always secondary to dysentery, and as the aspirator was not in common use at that time, we were compelled to rely on general symptoms for a diagnosis, and we found the following symptoms sufficient for a diagnosis: Slight fever, pain over the liver, rigidity of the right rectus muscle and very profuse perspiration. About one-half of these cases were multiple small abscesses disseminated through the liver."

Dr. Levison: "In reply to Dr. Rosenstirn's remarks, I would say that the liver substance could be easily palpated, and as far as I know, nothing lining an abscess cavity could transmit the same sensation to the finger. This tissue when manipulated, bled so profusely that I was compelled to desist from further exploration. As far as the diagnosis of subphrenic abscess is concerned, I feel that I practically excluded it after the diaphragm had been incised, entering the subphrenic cavity immediately; or in other words, the cavity between the diaphragm and the convexity of the liver was to be distinctly recognized. This cavity could be explored for quite a distance. This fact together with the cavity found in the substance of the liver, practically excludes the diagnosis of a subphrenic abscess. In answer to Dr. Tait's criticism regarding the position of the abdominal incision, I would state that the incision was made after the simplest surgical principle of incising an abscess at the location of its most prominent bulging. The idea of making a transpleural operation for the purpose of reaching the convexity of the liver when the tumor projects several inches below the umbilicus, does not appeal to me as being strictly surgical. As far as frequency of cases of abscess of the liver are concerned, I referred to the frequency as compared with abscess of the liver which occurs in other countries. I am free to confess as Dr. Tait very correctly remarks, that we do not hear enough of our colleagues' work; and as a matter of fact, it would be better if we heard more of them, for it is a recognized fact that statistics are proverbially inaccurate, as only successes are reported. It is an exceptional thing to hear the report of a case resulting in death read at any of our meetings, as the average surgeon seems to think that such a report will react to his discredit. But as a matter of fact we would profit infinitely more by hearing the report of failures than of successes."

Dr. Abrams: "The contention as I understand, is, that the case presented this evening was not one of liver abscess, but one of subphrenic abscess. The chief factor was the fact that so much pus was withdrawn from the liver. It is not unusual, if we place reliance on the text books, to find this amount of pus emanating from a liver, the seat of an abscess; and at the same time we must bear in mind that the individual from whom the pus was derived, was exceedingly tall, and that the liver corresponded in development with the rest of his organism. In the etiology of subphrenic abscess we have in the majority of instances a previous history of gastric duodenal or colonic ulceration and the development of a number of symptoms of great rapidity. The physical examination in these cases as we all know, is untrustworthy; some of the fluid removed by puncture presented an anchovia sauce appearance, which as we all know, is characteristic of liver abscess and not of subphrenic abscess. At the time of the operation the subphrenic space was explored and found intact; the liver on the other hand, showed marked degenerative changes in the environment of the abscess."

A CASE OF CORROSIVE SUBLIMATE POISONING.

Dr. Max Strunsky read this paper which detailed the history of a case recently seen by him in which the patient had taken by mistake two of the compressed tablets of corrosive sublimate, 7.7 grains in each, making a total amount of 15.4 grains. Patient was alone at the time and was not attended until her husband returned the following morning. When first seen patient was in collapse, and had vomitted violently most of the night; she had a persistent diarrhea, which by this time had assumed a bloody character, urine not suppressed. Treatment was limited to the administration of milk with whites of eggs, and an enema of strong coffee, which was immediately expelled, and some three hours later morphine and atropine hypodermatically, 1/8 of a grain and 1-120 of a grain respectively. That evening temperature was 101 F. but normal on the following morning, and no unpleasant effects except abdominal soreness. Patient was up and about on the fourth day and has continued well. The reasons advanced for the recovery were that the poison was taken in compressed tablets and was expelled by the violent emesis before absorption of much of the poison, and the persistent intestinal hemorrhage which 'served to imprison the poison and purge it from the digestive tract.'"

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting, June 26, 1900.

FRACTURE OF PATELLA.

Dr. D. W. Montgomery presided.

Dr. Dudley Tait presented a patient 54 years of age, who, three years previously was treated for a fractured patella; 2½ months of splint and cast left him with a painful, swollen and almost useless knee. Two years later Dr. Tait opened the joint and found two small, porous, widely-separated fragments. Perfect approximation was impossible, even in extreme extension, and after lateral incision of the quadriceps tendon and patellar ligament, the remnants of the patella were removed entirely. The patient is now able to work, no longer limps, and walks without the aid of a cane. Dr. Tait said that many of us have an exaggerated idea of the importance of the patella, which is merely a sesamoid bone. In a transverse fracture of the patella, without involvement of the peripatellar soft tissues, there will not be more than from four to six millimetres of separation of the fragments. If, on the contrary, the lateral aponeurotic expansions be torn, there may occur a marked separation, especially in case of pressure from behind, hemarthrosis. Keen's suggestion of disinserting the patellar ligament would not have been of any service in the case presented.

Dr. G. E. Caglieri presented a young man whose patella had been fractured by falling, sustaining a transverse fracture. The morning following the accident he operated, making a horse-shoe incision. He found the joints filled with blood clots, which were all removed by thorough flushing. The two fragments were surrounded by a silk ligature, passing it through the patellar tendon below and the quadriceps extensor tendon above. The result was excellent, the patient walking after four weeks. He thought the subcutaneous methods in fractures of the patella were not to be relied upon. He laid particular stress on the necessity of getting out all blood clots and fragments of bone from the joint cavity.

Dr. Tait: Where there is distinct separation of the fragments and soft tissues intervening, the open treatment is always indicated. I advocate early intervention. Many operators wait four or five days, but I do not think it is good practice for the resistance of the tissues is diminished by delay. The facility with which the ligature can be placed is remarkable.

Dr. Kugeler: "MacEwen wires or sews all his cases. The main thing is to bring the fibrous tissue together. Most operators use catgut or silk in bringing the fragments together; wire is not as frequently used. I think Dr. Tait is correct regarding the necessity for immediate union. The point MacEwen makes in advocating the operative treatment in all cases is that fibrous threads fall in between the fragments almost invariably."

Dr. Huntington: "Prompt action in these cases is certainly the accredited one. Blood clot forms a good culture medium. In a recent case in which high temperature and other septic symptoms developed, I aspirated the joint and found it was a streptococcic infection. Patient died. Had the joint been thoroughly opened and cleaned out earlier the result might have been different. Regarding the wiring of the fragments, we cannot lay down hard and fast rules; opinion among authorities is very much divided. When the bones can be properly approximated the joint should not be opened. Scudder, of Boston, in a recent article, stated that simple fracture of the patella by the open method was justifiable, and he showed that after a given number of months, the results as far as function was concerned, were about the same as when treated without opening the joint. If that be correct, it certainly is no strong argument for dealing with an ordinary fractured patella by the open method. The procedure may be safe in hospitals, but I do not think there can be absolute immunity from sepsis when a joint is opened."

Dr. Caglieri thought that under proper aseptic precautions in hospitals there was not great danger in properly opening any joint, and that he would no more hesitate to do so than to open the abdominal cavity.

Dr. H. M. Sherman thought the proposition of opening any joint was not analogous to opening the abdomen, the two operations could not be thought of together. Our ideas are somewhat perverted by speaking of the synovial membrane. The wall of a joint cavity is composed of connective tissue, and there is no tissue in the joint hostile to infection as the peritoneum is. The joint is simply a space in connective tissue, and has not the same power to throw off infection, therefore we have to hesitate more in opening any joint than in opening an abdomen. In all joints there is every tendency for infection to spread, no tendency for the focus to be walled off as in the peritoneum. The collateral features have to decide whether to open or not. When there are blood clots in the cavity we cannot very well get rid of them by means of the trocar. He had tried to devise a way, sometime ago, of holding the fragments together, with only fair success, but good success as far as the result was concerned. His plan was to place a plaster paris band around the joint, and then hold the fragments together with the fingers, by making firm pressure into the plaster until it thoroughly set.

Dr. Geo. F. Shiels thought the conservative opinion of never opening anything that can remain closed was the proper one. The method he liked best was that of passing a ligature through the quadriceps extensor tendon above, and the ligamentum patella below, and hold the fragments there in that position.

Dr. Tait said he did not think Dr. Caglieri's case was presented with the intention of advocating the open method in treating all cases of fractured patella. Such teaching would prove dangerous, if not criminal, outside of a well-appointed hospital. In these cases, however, in which there is great distention of the joint and extensive laceration of the peripatellar tissue, nothing will give such an ideal, sure and rapid result as the method of encircling the fragments. This procedure is extremely easy and rapid, and should replace the old method of wiring, in very many instances. It matters little what kind of union takes place. Good fibrous is as serviceable as bony union. Hence the result of treatment cannot be accurately estimated by the X rays alone.

THYROIDECTOMY.

Dr. H. M. Sherman exhibited a thyroid gland which he had removed because of cysts. It had increased in size to the point of causing dyspnea and some tachycardia. There was considerable disfigurement, and it was for cosmetic purposes that he removed it. The removal was easily accomplished, and he had no trouble with the recurrent laryngeal nerve. He left some portion of the right lobe to prevent the occurrence of myxedema. His principal object in reporting the case was to speak of a new drainage material that he had used, which was linen mesh, the material used in the manufacture of the linen mesh underwear, which has certain qualities which render it superior to gauze as a drain. The operation had been done after Treves, making a vertical incision in the median line with a transverse incision joining this at right angles dividing the muscular structures covering the gland, and making end to end approximation of the same.

Dr. T. W. Huntington said that he had not found it necessary to divide the muscular structures. He uses the Kocher horse-shoe incision, which follows the crease in the neck, instead of the straight incision of Treves, and believes that it is the incision that will be followed in the future by most surgeons, by reason of the slight scar that results.

Dr. H. B. A. Kugeler said that he saw Kocher operate a good many times at his clinic last winter. He uses local anesthesia by Schleich's method of cocain infiltration. Regarding drainage in these cases, he stated that McBurney uses strips of sterile rubber tissue, this acts well and is an excellent method. Some operators use wool thread wound up in wick.

CANCER OF STOMACH.

Dr. Tait showed a patient 55 years of age who entered the French Hospital 14½ months ago with a malignant growth involving the pyloric region, entire smaller curvature, and a portion of the greater curvature of the stomach. He had vomited all food for weeks previously and had lost thirty pounds. His condition was extremely cachectic; hemoglobin was 38 per cent. Gastro-enterostomy was done with great difficulty on account of the numerous adhesions, especially posteriorly. Patient soon gained twenty-five pounds and returned to work. For the past three weeks he had presented symptoms of obstruction of the anastomotic opening. Palpation shows an adherent epigastric tumor, and a series of nodules corresponding to several of the through and through stitch-holes. Duodenostomy was proposed by Dr. Tait, who asked for suggestions from members of the academy.

Dr. Tait also exhibited a specimen showing extensive involvement of the genito-urinary tract. During life the patient had complained solely of a swollen epididymis, and had requested an operation. This was refused.

O'HARA'S FORCEPS.

Dr. T. W. Huntington presented before the Academy the O'Hara intestinal anastomosis forceps, and described their method of application. In the discussion which followed Dr. Harold Brunn showed the LaPlace forceps and the Downes modification of the same.

Regular Meeting, July 24, 1900.

The July meeting of the California Academy of Medicine was held on the evening of July 24, 1900, Dr. D. W. Montgomery presiding.

Dr. Tait exhibited a patient, male, 72 years of age, and a pioneer, who, seven weeks previously, had contracted syphilis. The chancre on his penis was nearly healed at the time of presentation, but there was considerable induration remaining. He has had a typical syphilitic eruption, and a great deal of cephalagra, all of which had yielded to mercurial treatment.

Dr. Caglieri presented a successful case of fracture of the olecranon, treated by the closed method, in contrast with the cure of fracture of the patella treated by the open method, which he presented at the last meeting. The patient, about six years ago, fell from his wheel and landed on his right elbow, fracturing his olecranon at its junction with the shaft of the bone. It was treated by a long anterior splint for a week, and then in plaster for a week, then by massage until recovery. The result was perfect. He held the fragments together by means of a loop of adhesive strip above the fragments and another in front of the wrist below, both strengthened by circular strips of adhesive plaster around the arm. Through these loops he passed a rubber catheter and tied it on a slight stretch. This succeeded admirably in keeping down the upper fragment which was large and therefore easy to hold down. The result was perfect. The question is asked frequently, would you treat all cases of fracture of the olecranon or patella by the open method or the closed method. His answer is here as in other questions of surgical importance,—use your own judgment in the special case. If you have any doubt of the result of your case having a useful joint, and you are sure of your technic, treat by the open method; if not, resort to the closed method.

Dr. Barbat said that the results in this method, or any other method, of treating fractures of the olecranon, are not to be compared with the results obtained by wiring the fragments. He admitted that this method was superior to other ordinary methods, because in this way one gets an elastic pull, holding together the fragments. Good results were not to be obtained, however, in cases of fracture of the patella with such a method, because in such fractures one has an entirely different kind of a joint to deal with, and usually considerable blood clot in the joint. Better results are certainly obtained by wiring, and especially is this true of fractures involving the elbow.

Dr. E. E. Kelly thought that it was more difficult to get union in fractures of the patella than in those of the olecranon, because, it being a sesamoid bone, and not having the same blood supply, there was not the same tendency for the fragments to unite. It also takes great pressure to bring fragments of the patella together. In a case he had had sometime before, in which a woman had fallen and injured her knee, the doctor who saw her immediately, made a diagnosis of broken patella, and had dressed it by means of adhesive straps. He being called in subsequently, discovered that it was a rupture of the quadriceps extensor tendon, the patella being uninjured, and the straps were pulling the bone away from the tendon.

Dr. Dudley Tait thought that the action and importance of the quadriceps extensor tendon is made altogether too prominent in the treatment of patella injuries. It does not have as much action as is usually supposed in the separation of the fragments. Not enough importance is given the peripetallar soft tissues, as a causative factor in the separation of the fragments. Separation is very frequently due also to distension of the joint by blood clot from behind. Regarding the wiring of these fragments, it is much better to encircle the fragments of the bone with a suture.

Dr. J. Henry Barbat presented the following paper:

The following case illustrates the difficulty of detecting the presence of gall stones, even when present in large numbers.

Mrs. C., aged 36 years, gave the following history: Began suffering twenty months previously with pains in the epigastric region, usually after the ingestion of food; the pains did not come after every meal, and were not influenced by the quality of the food eaten. There was no nausea or vomiting, no icterus. The case was considered one of gastralgia, and the patient given all the remedies in the category, without avail. The pains grew worse and became more frequent, and finally lavage of the stomach was resorted to, with immediate relief of the pain as soon as the washings came away clear. The patient improved for a few months only to drift back to her former condition; she began to lose flesh, as she was unable to keep down sufficient food, it having become necessary to wash out the stomach after every meal.

About this time she noticed that the pain was more severe on the right side, and there was considerable tenderness over the right hypochondriac and lumbar regions. Her physicians also discovered a mass in this locality, which was thought to be a dislocated liver, but which later on proved to be a movable kidney; there was no evidence of trouble with the gall bladder during all this time. When I first saw her she had been sick for twenty months, and was willing to have anything done which might relieve her. I advised her to have her kidney sewed in place, as that might be the cause of her trouble, and she willingly acquiesed. I stitched the kidney with three chromicized catgut ligatures, and the patient had no severe pains while in bed, but after her return home they began to return, and after three months were almost as bad as ever. During one of her paroxysms I was present, and found that the point of greatest tenderness was over the gall bladder. After an unusually severe attack, I was able to detect dullness extending from the region of the gall bladder toward the umbilicus, but could not detect a tumor. The dullness gradually subsided, and a slight icterus appeared. I made a diagnosis of obstruction of the systic duct, due to either stones or catarrhal thickening of the mucosa; this was concurred in by one of my confreres, and operation advised. When the abdomen was opened, the gall bladder appeared normal in size and position, and looked as though it was filled with bile. Palpation revealed a large calculus at the apex of the viscus, which evidently blocked the cystic duct. The manipulation loosened the stone and allowed the bile to flow out of the gall bladder, leaving it just a little smaller than a normally distended one. It was found to be filled with stones, and its walls very much thickened. The stones were removed through an incision in the fundus and the edges of the incision stitched to the abdominal wound. A rubber drainage tube was placed in the gall bladder, and gauze packed between the cut surfaces of the abdominal wall and the gall bladder. Bile flowed freely from the wound for several days, and five stones, which could not be easily removed at the time of operation passed through the drainage tube. The gall bladder was irrigated every day, and when ten days had elapsed and no more stones appeared, the drainage tube was removed and the wound allowed to lose. Three weeks from the day of operation, the wound was completely closed, and the patient able to be around. She has had no recurrence of pain, and has gained considerable weight. The stones removed numbered 284, and while the majority were not much larger than a grain of wheat, several were fully two centimeters in diameter. One feature which we must consider in all cases of gall stones is the possibility of the subsequent formation of more stones; this may be avoided to a great extent by keeping the biliary secretion thined by means of cholagogues, and also by keeping the patient on an appropriate diet. If, in spite of these precautions, a recurrence did take place, the proper operation would be a chole-cyst-enterostomy, which would prevent the bile from accumulating in the gall bladder, and, therefore, remove the most frequent cause of gall stones, and in the event of their being formed in the bile ducts, would leave a permanent passage way for their exit.

The second case is interesting on account of the large size of one of the calculi, and the length of time the patient suffered before the operation.

Mrs. S., aged 42 years, mullipara, had been having sharp attacks of pain in the region of the gall bladder for ten years, but never noticed any jaundice; a diagnosis of possible gall stones had been made, and the patient given salines, olive oil, and most of the popular remedies for this disorder, with the usual result. Her attacks were becoming more frequent, and more exhausting, and left her very tender over the region of the gall bladder. I saw her during one of her seizures, and could determine a slight fullness below the margin of the ninth rib, and a peculiar fremitus, which was noticed by the patient also. I advised operation, which was readily assented to, and the woman, although carrying a large amount of adipose tissue, was becoming exhausted by the frequency of the attacks. The incision was made at the right border of the rectus muscle, and went through two and one-half inches of fat before reaching the fascia. The gall bladder was not very large, and required considerable coaxing to bring it into the wound. I incised the fundus, and removed first a number of small stones which lay between the wall and a large calculus which filled the lower three-quarters of the gall bladder. The removal of the large stone was followed by a gush of bile and a large number of smaller ones; a medium sized stone was found in the neck, and beyond this more small ones which occluded the duct. Two retention sutures were placed through the wall of the gall bladder and the skin, and the abdominal cavity closed off by sewing the peritoneum to the gall bladder. A rubber drainage tube was introduced for a distance of six inches, and a strip of oil gauze placed between the abdominal wall and the gall bladder to prevent too great adhesion, thereby allowing that viscus to return within the abdominal cavity after it has been sufficiently drained. Only one more stone was discharged and after eight days, the tube was removed and the wound allowed to close.

Dr. Kelly said that one objection to making an anastomosis between the gall bladder and the intestine is that there is very likely to be an ascending infection from the intestine going through the cystic duct, and involving the liver. He had a case of this kind. In this case he had used a Murphy button for anastomosis, but the button becoming plugged, he had been compelled to make a second operation three weeks later to remove it. At this operation he saw that the gall bladder had shrunken and was not larger than a duct.

Dr. Tait said that the operation done by Dr. Kelly has been practically abandoned by the men who first used it. In all gall bladder cases we have infection of the gall bladder, which fact demands that it should be drained, and he favored stitching the gall bladder to the abdominal wound, and thus draining it. He believes total removal of the gall bladder to be an unsurgical procedure.

Dr. Barbat in closing the discussion said that an ideal operation cannot always be done. He had met with cases in which it was impossible to bring the gall bladder to the surface in order to stitch it to the abdominal wall. In such cases cholecystenterostomy is the operation indicated. The authorities who recommend delay in operations for gall stones, he thought, were not correct. He believed that operation is justifiable where we have strong suspicion of the existence of gall stones. In performing a cholecystenterostomy he always uses the Murphy button as a means of anastomosis.

Dr. Barbat presented these instruments: Howard Kelly's Fibroma Enucleators; fibroma pick; hysterectomy spuds; alligator forceps and scissors; Murphy Button Holder and Adjuster; shot holder, and some novelties in rubber goods for surgical use.

Dr. Caglieri presented a specimen of ileocolic intussuscipiens removed from an infant four months old who died a few hours after the operation. It was impossible to reduce the obstruction, so resection was resorted to, and about three feet of bowel removed, which was very doubtful in appearance, owing to extensive sub-serous hemorrhage. This child had been sick for four days before the speaker saw it, and hence shows the importance of not diagnosing intestinal obstruction as "bowel trouble," as was done in this case before his seeing the child.

Dr. Barbat thought that early operation should be done in all abdominal cases. He attributed his long success in the treatment of such cases to be due entirely to early diagnosis and early operation.

Dr. W. I. Terry thought that high injections, when used early are of decided value, and probably would have been so in this case. Had the operator made an artificial anus in this case, it might have been better than the method he pursued.

MEDICO-CHIRURGICAL SOCIETY.

Regular Meeting, May 7th, 1900.

CHOLELITHIASIS WITH SPECIMENS.

Dr. E. Rixford presided.

Dr. C. Cushing read a paper with the above title.

Dr. J. O. Hirschfelder: The medical treatment of gall stones deserves more attention and all cases should not be turned over to the surgeon. There is undoubtedly a large number of cases where medical treatment is of avail; another large number will demand surgical measures. In order that the gall bladder may empty itself, it is very necessary that it should be full and distended so that it will be made by reason of this distention to contract upon its contents as strongly as possible. If stenosis exists the stone cannot pass and this contraction is therefore inefficient. Where this condition does not exist remedies to stimulate the formation of bile and thereby gain this distention necessary to make it contract are of service. Medical treatment where no stenosis exists has proven of great value, and especially where efforts were made to stimulate this flow of bile. For several years J. Hughes Bennett and several confreres were engaged in making a series of experiments to study the effect of medicine on the formation of bile and the best means of stimulating its flow. A very large number of cases were studied. In these experiments the opening of the common duct into the duodenum was brought into view, the number of drops of bile that flowed from the ductus choledochus were counted to determine the rate and amount of its secretion before and after the use of the drugs. After the animals had starved for a number of hours the substances under experimentation were introduced into the stomach or intestines and the results carefully noted. Acetate of lead stopped the flow at once. Euonomyn, iridin, etc., caused a moderate increase in the amount. Benzoic and salycilic acids were proven to be the most powerful stimulants, causing a great flow. Benzoate and salicylate of soda caused the bile to flow rapidly and freely. The use of acetate of lead again stopped the flow immediately. Acting upon the results of these experiments I have always administered salicylate or benzoate of soda to increase the flow of bile, to force by this increase stones from the bladder; to have the bladder fill up and so distend itself that it will be forced to contract upon the contents and thereby have the obstruction expelled. Some years ago Dr. L. C. Lane called my attention to some experiments that had been made by Prof. Vulpian, who observed that pilocarpine induced vigorous contraction of the gall bladder. Since then I have used pilocarpine for this purpose. In gall stone colic the pain is produced by the spasmodic contraction of the bladder wall and the walls of the duct. This contraction of the bladder and the wall of the duct on a bladder that is full and distended forces the obstruction whether it is a stone or a plug of mucus. Certainly a great deal of experimentation is necessary to prove the certainty of the results but the application of these conclusions have proven of much value in my hands in the cases where medical treatment was deemed sufficient.

Dr. L. C. Lane: Some of the most remarkable results ever attained by animal experimentation were those of Prof. Vulpian, a French scientist. It was through his experimentation that I first derived my knowledge of jaborandi in its effect on the flow of bile. The experiment was performed in the following manner: The abdominal cavity of a dog was opened and the common duct brought into view. The duct was cut off, drawn out, and a tube inserted into it. In a little while a drop or two of bile was seen to ooze from the tube. Then some pilocarpin was injected, and within the space of five minutes a large quantity flowed from the tube. In all vivisection work I have seen there was nothing so beautiful or satisfactory. The result was so striking that it was at once put into practice and many favorable results could be reported, though there have been some failures as well. Cases in point were cited. In the study of gall stones two forms have been recognized: those formed from cholesterin and those from biliverdin. To the extended works of Langenbuch in the study of the formation of gall stones and diseases of the gall bladder this division is due. His theory as to the formation of the first class, i. e., those with cholesterin as a base, has been drawn partly from experiments on animals, showing that the generation of gall stones is caused by infection from bacteria, awakening inflammation and catarrhal disease. Langenbuch substantiates this theory from surgical literature and personal experience. Where the gall-bladder is sound bacilli are innocuous, they do not act unless the mucous membrane is irritated. Under such conditions stones may be formed in the duct or within the bladder. Pure bile is a bad medium for the growth of bacilli, but when the above conditions are present the bile loses its inhibitive power and agglutination of mucous, cholesterin and bacilli occur. In this way by the aid of obstructive agents, viz, strictures, contractions and pus the cholesterin stone is formed. The great majority of stones are of this class. Biliverdin forms are not very common. Langenbuch believes that when a stone is formed it arises in the gall bladder from bacillary, catarrhal trouble; and as a radical cure he counsels and has practiced the removal of the bladder.

Dr. Cushing, by illustration, showed that the bile flowed back into the liver and not into the gall bladder. The amount formed each day varies, and is much greater than ordinarily believed, being almost equal to that of the urine—30 to 40 ounces. The amount therefore going back to the bladder must be very small. Hence free purgation is not of avail. Pressure on the common duct will prevent the unloading of the gall bladder.

Dr. Lane: To control hemorrhage in operations on gall bladder or liver I have proposed to ligate the inferior mesenteric artery, which, while it will not cut off blood supply, checks and lessens the amount of blood, and slows circulation in the portal system.

Dr. Cushing: When it is manifest that the obstruction exists in the main duct it is not proper to remove the gall bladder but to utilize it as an outlet for the flow of bile by anastomosis. Long, continued pressure of stone and disease of the duct and surrounding tissue will not aid in the removal of the stone and renders operation absolutely necessary. As regards the mortality all recover, where there is no malignant disease. Olive oil is a fallacy. Dr. Lane's suggestion of the ligation of the mesenteric artery is new to me, is good, and will surely lessen and slow the blood supply. The number of stones have not been mentioned. In operations care should be used to find all stones in the gall bladder and the duct.

Dr. Hirschfelder offered two explanations: first, the saponification of the oil, and secondly, like the sailor who raises the wind by whistling for it long enough, so he, who administers oil, may finally often get the stone if he gives his oil long enough. It had no specific effect, which opinion was held by Dr. Lane with other authorities.

Dr. Lane: When an interne at the New York Emigrant Hospital I saw a German woman with a large, swollen mass over the liver. The diagnosis was in doubt. Eventually an incision disclosed a large stone the size of a pigeon's egg, which, with the surgery of those days, we were satisfied in permitting nature to remove. One after another of the calculi came away until there was a total of 200. The shape and flattened sides showed that they were packed closely and firmly side by side. When all had come away the sack graudually closed. The woman went on slowly to complete recovery.

SAN FRANCISCO SOCIETY OF EYE .EAR, NOSE AND THROAT SURGEONS.

Regular Meeting, May 24, 1900.

Dr. Henry I. Wagner, president, in the chair.

Dr. W. A. Martin presented a man about 52 with a very beautiful and perfect halo of exudation around the left macula, characteristic of albuminuric retinitis. This patient had consulted Dr. Martin in 1892, eight years ago, complaining of failing vision. At that time he found a neuro-retinitis but no albuminuria. Potass. iodid was given in 10 and later in 5-grain doses. The vitreous improved but the disc was not normal when treatment ceased at the end of a year. Six weeks ago he again consulted Dr. Martin, stating that his vision was failing. Neuro-retinitis was found in the right eye, but no exudate. Ten days later patches of exudate were seen, and in the course of three weeks developed into a perfect halo. It has now started in the left eye. The patient states that he is perfectly well. At the time he was first seen in 1892 there were no symptoms of syphilis, although it was suspected. The facts do not prove that repeated tests in 1892 would have discovered albumin. In another case with defective vision, a sea captain and a moderate drinker, there was optic neuritis, but nothing typical found in the fundus. He was always better at sea when he did not drink.

Dr. F. B. Eaton had lately a similar case, the patient being a carpenter, aged 60, of fine physical appearance. He complained that for four months his sight had been failing, but felt perfectly well otherwise save for some indigestion. There is neuro-retinitis in both eyes with a characteristic pattern of exudate around the left macula. The urine showed a large amount of albumin.

Dr. R. D. Cohn thought that albuminuria as an evidence of chronic nephritis could not be connected with syphilis, the two diseases being entirely unconnected.

Dr. H. L. Wagner stated that care should be taken in making the diagnosis. In testing the urine one thing must be considered, the difference between alkaline and acid albuminate. The latter does not precipitate by heat, and it requires much nitric acid to neutralize it. In all syphilitic cases we should examine the urine. The president presented a woman from whose nose externally, he had removed an epithelioma, and which had remained cured for nearly a year after he had operated upon it by galvano-cautery. He urged the advisability of giving treatment for the disease constitutionally. The "nest cells" found microscopically can be evidences of either syphilis or epithelioma, but potass. iodid cures the syphilitic cases.

Dr. G. W. Merritt presented a woman aged 44 with a transparent, dislocated lens of the left eye. This had existed 25 years, being the result of a blow which had caused no inflammation.

Dr. L. C. Deane presented a report of 36 cases of heterophoria occurring in his practice with a carefully-prepared table. He had found greater difficulty in making the report than he had anticipated. Recent cases could prove nothing, so he had reported no case occurring within two years. The cases reported are not picked cases, but were taken in order as they appeared in his records. About 75 per cent. were females, while youth seems to be the favorite period. Vision was determined without glasses, the correction noted, and the improvement obtained by glasses. Among the symptoms noted were headache, pain in the eyes, weariness after concentration at the near point, etc. The adduction, abduction and sursumduction were taken before treatment and after. In many, these tests were made a year or two after the completion of the treatment. Little or no change in the muscular balance after the treatment was found resulting from any method except where graduated tenotomy was performed. Out of the 36 cases reported, 16 were operated upon, and relief was obtained in all but two cases. In two cases an exact state of orthophoria was obtained. In one case an operation on the left superior rectus for left hyperphoria corrected a co-existing exophoria. The effect of wearing weak prisms constantly is shown in ten of the cases, and the result except in three cases was encouraging, though Dr. Deane was convinced that better results would have been obtained if some had consented to operation. The effect of prism practice when not connected with operation was not permanently beneficial, but only palliative, though three of the cases are exceptions. In a number of cases an ametropia and heterophoria exist together, and the correction of the ametropia gave entire relief. This was due to one of two things: either the heterophoria caused none of the reflex symptoms, as is shown in many cases of heterophoria without an ametropia, or disturbed convergence due to the ametropia was the cause of the heterophoria, and the correction of the former corrected the latter as well as the disagreeable reflex symptoms. Relief was obtained by spherical and cylindrical lenses only, without affecting the heterophoria in two cases; partially correcting the heterophoria in one case; entire correction, one case. Dr. Deane had had many cases that showed a large refractive error combined with a small amount of heterophoria. He had made no exact note of the latter and only prescribed for the refraction with relief.

Dr. V. H. Hulen thought that the most important questions as regards the report were: What operations were done, and what were the results? How were they done? Were they complete or partial tenotomies, or were they advancements? Good men have reported many excellent results, but he thought some of these good results were moral. What he had done had not cleared up the matter for him. He had done some graduated tenotomies, but could not tell whether the improvement was the result of the general condition or moral. Advancement appears to be the best operation.

Dr. Martin said he would have to study out the table for some time to give an opinion regarding it. His experience with graduated tenotomies, which he had at one time practiced for a while, had not been favorable. The pendulum has swung one way and will probably return. Some time ago he had a patient under his care for a year and a half for asthenopia, whose refraction he corrected. He passed into the care of another physician, and six years later came again into his care, when he made a more complete correction of an astigmatism, this time with a disappearance of the asthenopia.

Dr. Cohn pointed out that among the cases reported by Dr. Deane a majority resulted favorably, and the inference could be that there must be some good in the methods followed. The question was between hygienic treatment and tenotomy.

Dr. E. J. Overend considered the table full of data, painstaking and complete. He did not believe in partial tenotomies; was much impressed but inclined with Dr. Hulen to believe in the moral effect of operations. He was also inclined to believe in the good effect of suggestion. The asthenopia is often the result of a general nervous condition rather than a local one. This is, of course, excluding all errors larger than heterophoria. He was impressed by the fact that sixteen cases had been cured.

Dr. Eaton desired to express his appreciation of Dr. Deane's report as an evidence of the doctor's courage and willingness to "show his hand." He had done quite a number of tenotomies for the heterophoria in cases where the use of prisms and general treatment had not relieved, but he had always done a complete tenotomy. His results had been generally favorable. He thought oculists were often too lazy to make the tests necessary to arrive at a just opinion as to the treatment needed, and all thorough work is time consuming. He wished to call attention to the very great importance of considering the muscular balance at the near point in relation to the relative ranges of convergence and accommodation. In 1892 Dr. Arch. Percival in an article in the Ophthalmic Review, had illustrated the value of getting the abduction and adduction for distance and near by rotary prisms as a means of ascertaining the relative ranges at these points, and in a case of persistent asthenopia under Dr. Eaton's care for over a year, a case of divergence insufficiency for distance and near, without convergence excess, in which prisms base out, so lauded by Dr. Noyes, had given only temporary relief, the prescribing of convex 1 dioptre lenses relieved the patient, although he was not presbyopic, and his range of accommodation unimpaired. Tenotomy of the interni might have relieved him. Dr. Eaton showed a chart of the relative ranges of this patient. The monocular field of rotation was normal, and no operation was justifiable save advancement of the externi.

Dr. Deane said that in all the cases he had excluded the condition of the general health as a cause by giving tonics, etc., in cases seemingly of neurasthenic origin. Because he favored graduated tenotomy for heterophoria, he did not mean that he practiced it in all cases. He recognized the fact that where errors exist with heterophoria, a proper correction of the ametropia will often relieve the disagreeable symptoms. Again, a high degree of myopia or hypermetropia is often a predisposing cause of heterophoria, and a correction of the former will sometimes relieve the latter. He also believed that the use of a weak prism alone or with the ametropic correction, is often more advisable than operation; he recognized the value of prism practice, but placed the least reliance upon it as a method of treatment.

ALAMEDA COUNTY MEDICAL SOCIETY.

Regular Meeting, May 10, 1900.

PNEUMONIA.

Dr. Milton, the president, in the chair.

Dr. E. N. Ewer read a paper on the "Treatment of Pneumonia," which deals very fully with the subject. [To be published.]

Dr. C. A. Dukes read a paper on "Etiology of Pneumonia." [To be published.]

Dr. Rucker: I was in Denver during an epidemic of pneumonia. The theory was advanced that the epidemic was caused by the peculiar condition of the atmosphere. As to abating pneumonia, there is one class of patients in which you can do it if you treat them heroically. In young, strong men under 30 you find chill, suffocating pain, high temperature, crepitation in lung. Give five grains of calomel, a mixture of aconite, veratrum viride and squills. Could not treat old or weak patients this way. I believe in poultices for some cases with plenty of cold drinks. Strychnia and digitalis are the best stimulants. Septicemia and pneumonia in some stages are the only diseases in which I use alcohol.

Dr. Prather: Pneumonia is a specific infection. It is dependent on many micro-organisms. Nothing modifies the inflammatory process after it has begun. Opium is one of the best regulators of the circulation; strychnin is the best stimulant. Heat will sometimes secure rest. Rest may in some cases be secured by ice bag on the chest.

Dr. Sill: I think we often treat such cases too severely in the beginning. We give antipyretics which weaken the heart and disturb the stomach. I believe in lowering the temperature by bathing. In the later stages the inhalation of oxygen is a great comfort.

Dr. Stratton: Heart depressants should be used only in the first stages. The tendency of the disease is to depression. I always try to abort the cases of broncho-penumonia in the congestive stage. I use aconite in small doses and spts. minderiri. I produce marked diaphoresis. It is an eliminant and equalizes the circulation. Nitro-glycerine can do harm and should be used only when you have a reliable nurse.

Dr. Kitchings: I believe in blood letting. I was called to a woman eight months pregnant, red face, chill, pulse and respiration very fast, temperature 105°. The patient was in great distress. I dilated the cervix and delivered. I let the cord bleed but had quite a hemorrhage after delivering the placenta. The woman made a good recovery.

BOOK REVIEWS.

THE GROSS AND MINUTE ANATOMY OF THE CENTRAL NERVOUS SYSTEM, by H. C. Gordinier, A. M., M. D., Professor of Physiology and of the Anatomy of the Nervous System in the Albany Medical College, etc., with 48 full-page plates and 223 other illustrations, many of which are printed in colors, a large number being from original sources. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street, 1899.

The absolute necessity of a text book on general anatomy is conceded, for without it, and a knowledge of its contents, the text books on any other subject today would be rarely understood, especially the clinical and pathological processes which are coming to be more completely and thoroughly described. If the need of knowledge in general anatomy is acknowledged for the understanding of subjects in general medicine it is evident that for the more obscure forms of disease, particularly those of the central nervous system, some source of accurate information is even more essential. Until recently the students and practitioners who wished information on neurologic anatomy were compelled to employ the text books on general anatomy or the preliminary remarks on the anatomy of the nervous system in the books on neurology. Both these sources are now inadequate for the fact that they are incomplete and too old, at least ten years having elapsed since any worthy publication on this subject has been brought out. The latest and most complete work of this character in English, and by an American author, is written by Dr. H. C. Gordinier, who is by his long study of this particular branch under the most noted of the anatomists, physiologists and neurologists of Europe and this country, particularly fitted for this work. His years of teaching have given his diction a force and clearness, and his knowledge of the necessities of the student and practitioner has enabled him to place the matter in such a manner as to be sufficiently complete for the trained neurologist and yet not too abstruse for the general practitioner, for whom the work is chiefly intended. There are nearly 600 pages of text in this work, divided so as to be most easily read and understood. The illustrations are profuse, there being 223 besides 48 full-page plates, all largely from the author's own preparations, many of these being printed in colors. Typography and paper leave nothing to be desired, the publishers making the mechanical part of the work correspond with the scientific merit of the text.

CHRISTIAN SCIENCE. An Exposition of Mrs. Eddy's Wonderful Discovery, Including its Legal Aspects, "A Plea for Children and Other Helpless Sick," by William A. Purrington, Lecturer in the University and Bellevue Hospital Medical College, Etc. New York: E. B. Treat & Co., 1900.

This interesting volume is a collection of papers which have been published from time to time in the North American Review, the Medical Record and the New York Sun, and give Mr. Purrington's ideas of Christian Science clearly. Not only this but the legal aspects of the cause of these misguided people are given with references to cases cited from law reports. For a careful, critical resume of the fallacies of this fad the book can not be surpassed, and for interesting reading it is superior to most novels. Mrs. Eddy is answered in logical form, when anything is found in her works that will bear enough analysis to warrant an answer, and her jumbled, incoherent sentences are ridiculed and pruned until they stand alone in all their laughable ridiculousness.

A Review of Recent "Legal Decisions," Affecting Physicians, Dentists, Druggists and the Public Health, Together with a Brief for the Prosecution of Unlicensed Practitioners of Medicine, Dentistry or Pharmacy, with a Paper Upon Manslaughter, Christian Science and the Law and Other Matter, by W. A. Purrington of the New York Bar, Counsel of the Dental Society of the State of New York, Etc. E. B. Treat & Co., 1899.

This little brochure is an admirable brief, giving citations of authority upon any points likely to arise in prosecution of unlicensed practitioners, and quite sufficient to make it of assistance at trial to magistrates and counsel. It gives the points essential in regard to medical laws and the methods of enforcing them. In addition to the exposition of the law the article upon "Manslaughter, Christian Science and the Law," has been reprinted in this work from the Medical Record with foot notes calling attention to cases on the brief in this pamphlet.

THE ESSENTIALS OF HEMATOLOGY. The Palisade Manufacturing Company, Yonkers, N. Y.

This is nothing more nor less than presenting the members of the profession with a compact working-guide to the clinical examination and diagnosis of various diseases, with the most practical and correct technique. The first of these volumes is "The Essentials of Hematology," to be followed later by one on "Diagnostic Bacteriology," and after an interval by one on "Clinical Examination of the Stomach Contents." The profession can not but appreciate these valuable and precise aids to diagnosis, particularly when in neat and compact form with the substance selected and ready to use.

MEDICAL NEWS.

LICENSES GRANTED.

5534. Poussette, William Courthope, Orange, Trinity Univ., Toronto, Ont., Canada, April 7, 1897.

5535. Rathbone, Charles Clary, Los Angeles, Coll. Phys. and Surg., City of New York, N. Y., June 14, 1893.

5536. Roy, L. E. Philemon, St. Paul, Minn., Med. Dept. Drake Univ., Iowa, March 18, 1896

5537. Teel, Ambrose Wilson, Revere, Mo., Coll. Phys. and Surg., Keokuk, Iowa, March 5, 1895.

5538. Townsend, Frederick, Sault Ste Marrie, Med. Dept. Univ. City of New York, May 1, 1894.

5539. Whitfield, Lorenzo, Los Angeles, Royal Coll. Phys., London, England, January 27, 1898. Royal Coll. Surgeons, England, February 10, 1898.

5540. Willard, William P., San Francisco, Med. Dept. Univ. of California, May 16, 1899.

May 1, 1900.

5541. Case, Elias Payne, Waterville, Med. Dept. State Univ. of Iowa, March 3, 1875.

5542. Coates, Benjamin O., Cleveland, O., Trinity Univ., Toronto, Canada, April 4, 1892.

5543. Earl, Robert Oscar, St. Paul, Minn., Med. Dept. Univ. of Minnesota, June 4, 1896.

5544. Entrikin, Findlay, O., Med. Coll. of Ohio, April 5, 1894.

5545. Evans, William J., Groton, S. D., Starling Med. Coll., Ohio, March 4, 1886.

5546. Hedges, B. Van Doren, San Francisco, Coll. Phys. and Surg., New York, June 10, 1891.

5547. Hughes, Price W., Ashland, Or., Hosp. Coll. of Medicine, Louisville, Ky., February 28, 1876.

5548. Jakes, Robert Wallace, Greenwood City, McGill Univ., Montreal, Canada, April 4, 1893.

5549. Lewis, John A. (lieu certificate) Reno, Nevada, Long Island Coll. Hosp., N. Y., June 21, 1877.

5550. Linforth, Grace Stryker, San Francisco, Med. Dept. Univ. of California, May 17, 1898.

5551. Loe, Adolph Oscar, Oakland, Med. Dept. Univ. of Minnesota, June 1, 1897.

5552. Lyne, William Henry, Los Angeles, Med. Coll. of Virginia, March 31, 1896.

5553. Peterson, Vern A., Los Angeles, Coll. of Phys. and Surg., Atlanta, Ga., April 3, 1899.

5554. Robertson, John, San Francisco, Coll. Phys. and Surg., San Francisco, Cal., July 12, 1899.

5555. Rofelty, George W., Los Angeles, Med. Coll. of Ohio, March 2, 1876.

5556. Spurgeon, Franklin, Chico, Med. Dept. Univ., Louisville, Ky., March 4, 1874.

5557. Smith, Albert Sidney J., San Jose, Med. Dept. Washington Univ. Mo., March 14, 1893.

5558. Thompson, J. Ashley, Wadena, Med. Coll. of Alabama, March 31, 1880.

5559. Weeks, Alanson, San Francisco, Med. Dep. Univ. of Michigan, June 22, 1899.

5560. Williamson, Richard F., Lemon Grove, Univ. of Edinburgh, Scotland, August 1, 1881.

June 5, 1900.

5561. Bates, Roxie Helenan, Covina, Med. Dept. Univ. of Michigan, June 30, 1887.
5562. Bello, Joseph, San Francisco, Univ. of Naples, Italy, March 1, 1879.
5563. Benham, Robert B., Los Angeles, Jefferson Medical College, Pa., March 11, 1876.
5564. Bernard, Joseph H., San Francisco, Cooper Medical College, Cal., July 22, 1899.
5565. Calder, Daniel H., Battleboro, Vt., Med. Dept. Univ. of Vermont, July 8, 1895.
5566. Carter, Marion D., Gardena, Missouri Medical College, Mo., March 2, 1882.
5567. Chamberlain, Frank C., Colorado, Gross Med. Coll., Denver, Col., April 8, 1892.
5568. Cruickshank, Brooklyn, N. Y., Long Island Coll. Hosp., N. Y., May 16, 1899.
5569. Davis, Magnet J., Nome, Alaska, Cincinnati Coll. Med. & Surg., Ohio, April 2, 1896.
5570. Deckelman, Carlotta R., Pacific Grove, Med. Dept. Univ. of California, May 15, 1900.
5571. Dennis, Adolph J., Barstow, Kansas City Med. Coll., Mo., March 15, 1900.
5572. Gale, John A., Valley Wells, Indiana Med. Coll., Ind., February 26, 1875.
5573. Haldeman, Frederick D., Ord, Neb., Omaha Medical College, Neb., March 22, 1882.
5574. Hanna, Edward A., Azusa, Chicago Medical College, Ill., March 23, 1886.
5575. Hazen, Edward Hamlin, Los Angeles, Charity Hosp. Med. Coll., Cleveland, O., February 22, 1866.
5576. Hermida, Joaquin A., San Francisco, Med. Dept. Univ. City of New York, March 6, 1886.
5577. Hodghead, John Samuel, Laytonville, St. Louis Coll. Phys. & Surg., Mo., April 26, 1899.
5578. Holmes, Truman Huff, Hillsboro, Medical College of Ohio, March 7, 1889.
5579. Klotz, Bernard J., San Francisco, Med. Dept. Univ. of Cal., May 15, 1900.
5580. Lacy, Jasper Newton, Badger, Univ. Med. Coll., Mo., March 22, 1900.
5581. McArthur, Peter R., Los Angeles, Univ. of Toronto, Ontario, Canada, June 9, 1899.
5582. McIntosh, San Francisco, Med. Dept. Univ. of Cal., May 15, 1900.
5583. Mitchell, John P., Santa Cruz, Jefferson Med. Coll., Pa., March 9, 1858.
5584. Murietta, Alfred John, Los Angeles, Coll. of Med. Univ. Southern Cal., June 16, 1899.
5585. Nieukirk, J. William, Mountain Home, Idaho, Coll. Phys. & Surg., Chicago, Ill., March 25, 1890.
5586. Opswig, Peter, San Francisco, Med. Dept. Univ. of Cal., May 15, 1900.
5587. Osburn, Albert, Tacoma, Wash., Coll. Phys. & Surg., Keokuk, Iowa, March 2, 1880.
5588. Osburn, Eva St. Clair, Tacoma, Wash., Coll. Phys. & Surg., Keokuk, Iowa, March 2, 1886.
5589. Palmer, Humphrey P., Benecia, Med. Dept. Univ. of Buffalo, N. Y., March 24, 1891.
5590. Parsons, A. W., Mexico, Med. Dept. Harvard Univ., Mass., June 30, 1880.
5591. Raymond, J. H., San Francisco, Rush Med. Coll., Ill., March 28, 1893.
5592. Robertson, Ira Bascom, Taylor, Med. Dept. Univ. Louisville, Ky., February 28, 1890.
5593. Russ, William Booth, Philadelphia, Med. Dept. Univ. of Penn., Pa., June 8, 1898.
5594. Saph, Louis Victor, San Francisco, Med. Dept. Univ. of Cal., May 16, 1900.
5595. Shields, Lawrence, Mexico, Med. Coll. of Ohio, April 4, 1895.
5596. Shultz, Nellie L. Morse, San Francisco, Cooper Med. Coll., Cal., August 22, 1899.
5597. Thompson, A. L. Rosenthal, Traverse City, Mich., Med. Dept. Univ. of Mich., June 26, 1884.
5598. Wagner, Edward R., San Jose, Med. Dept. Univ. of Mich., June 30, 1887.
5599. Watts, Herbert C., San Francisco, Med. Dept. Univ. of Cal., May 15, 1900.
5600. White, Belle J. Platt, Springfield, Mass., Woman's Med. Coll., Baltimore, Md., May 1, 1893.

July 3, 1900.

5601. Adams, Lemuel Payson, Swanton, Vt., Med. Dept. Univ. of Vermont, June 29, 1899.
5602. Alderson, Harry Everett, San Francisco, Med. Dept. Univ. of Cal., May 15, 1900.
5603. Ash, Rachel Leona, San Francisco, Med. Dept. Univ. of Cal., May 15, 1899.
5604. Atkinson, Henry H., San Francisco, Cooper Med. Coll., Cal., June 5, 1900.
5605. Bacigalupi, David E., San Francisco, Med. Dept. Univ. of Cal., May 15, 1900.
5606. Beecher, Mat. A., Los Angeles, Coll. Med. Univ. of Southern Cal., June 14, 1900.
5607. Bell, Charles Arthur, Alameda, Cooper Med. Coll., Cal., June 5, 1900.
5608. Burnett, Theodore Crete, Santa Barbara, Coll. Phys. & Surg., New York, May 12, 1887.
5609. Coryn, Herbert A. W., Point Loma, Royal Coll. of Surg., England, July 24, 1889; Lic Apothecary's Society, London, Eng., March 21, 1888.
5610. Cox, William C., Everett, Wash., Jefferson Med. Coll., Pa., April 2, 1885.
5611. Culver, John Thayer, Oak Park, Coll. Phys. & Surg., Chicago, Ill., April 18, 1900.
5612. Dabbous, Aime Mahran, Philadelphia, Jefferson Med. Coll., Pa., May 15, 1896.
5613. Davis, Grace Van, Portland, Or., Med. Dept. Univ. of Oregon, Or., April 3, 1900.
5614. Dillingham, Frank, Los Angeles, Coll. Med. Dept. Univ. of Southern Cal., June 14, 1900.

CHAS. C. WADSWORTH, M. D.,
Secretary.